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ABSTRACT

Described is the development and field testing of a set of simulation training materials, the Shannon Materials, to train management personnel of residential institutions for the mentally retarded. Defined and discussed is simulation as a training method. The materials are described as including slide-tape presentations of a real community and a real state school and hospital. Various institution documents such as the administrative handbook and the annual report are part of the materials. In-basket items such as letters, requisitions and live encounter items such as telephone calls and personal encounters are seen to be the means of conveying reality-based incidents to the trainee in his simulated role as superintendent of the institution. The three workshops are said to have had as their primary objective the testing of the Shannon Materials on about 50 management level participants. Activities of the second workshop are given in detail and include photographs and questionnaire responses. Feedback from the workshops is reported to have been highly positive and to have led to revisions in the materials. (See EC 032 221 for a related document.) (DB)

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**PILOT WORKSHOPS UTILIZING THE SIMULATOR
AND TRAINING MATERIALS DEVELOPED
FOR IN-SERVICE PROGRAMS FOR LEADERSHIP
PERSONNEL EMPLOYED IN RESIDENTIAL
INSTITUTIONS FOR THE MENTALLY RETARDED**

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PENNSYLVANIA DEPARTMENT OF PUBLIC WELFARE**

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FINAL REPORT

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EMPLOYED IN RESIDENTIAL INSTITUTIONS FOR THE MENTALLY RETARDED**

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August 31, 1971

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**PENNSYLVANIA DEPARTMENT OF PUBLIC WELFARE
OFFICE OF MENTAL RETARDATION**

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PREFACE

The development of the Shannon State School and Hospital Simulation Training Materials was prompted by the Pennsylvania Office of Mental Retardation's concern for providing effective training materials to be utilized in pre-service and in-service training programs for management personnel working in residential institutions for the mentally retarded. The Office of Mental Retardation desired modern and effective training materials that would extend beyond traditional didactic instruction. Having been made aware of the capabilities of instructional simulation, the Office of Mental Retardation contracted (September 1, 1969 through August 31, 1970) with the University of Pittsburgh, Department of Special Education and Rehabilitation to produce a reality-based simulator and accompanying training materials. Consequently, under the direction of Dr. Godfrey D. Stevens, the Shannon State School and Hospital Simulation Training Materials were developed.

Subsequent to the development of the "Shannon Materials" came the realization of the need for field testing. From September 1, 1970 to August 31, 1971, the project staff that developed the "Shannon Materials" under contract with the Office of Mental Retardation, conducted field tests via three pilot workshops. This document is intended to provide, (1) a brief history of the development of the "Shannon Materials," (2) a detailed description of the training materials, and

(3) a comprehensive report of the workshop activities and subsequent participant reactions.

The project staff desires that (1) the information reported herein warrants the generous response of the participants, (2) the development, description and use of the Shannon State School and Hospital Simulation Training Materials is effectively described, and (3) that the use of the "Shannon Materials" in training management personnel will ultimately enhance the care and treatment of the mentally retarded.

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For their personal and professional cooperation as project consultants and hosts for the pilot workshops conducted to field test the Shannon State School and Hospital Simulation Training Materials, appreciation is conveyed to:

Dr. Gerard Bensberg, Associate Director
Center for Developmental and Learning Disorders
Medical Center
University of Alabama
Birmingham, Alabama

Dr. Joseph Hubbard, Director
Arizona State Department of Mental Retardation
537 E. Osborne
Suite 2
Phoenix, Arizona 85012

Dr. James McClelland, Superintendent
Polk State School and Hospital
Polk, Pennsylvania

Gratefully acknowledged is the receptive attitude and co-operation extended to the project staff by the superintendents and

leadership personnel of Pennsylvania's schools and hospitals for the mentally retarded. These individuals made a valuable contribution to the project by providing information necessary for the development and completion of the "Shannon Materials."

Special thanks goes to the staff of the prototype institution and to the leaders of the prototype community for making their resources available for the description of the simulator. Maintaining the anonymity of the prototype institution and community is essential to simulation training and although they will remain unidentified, hopefully the true acknowledgement of their efforts will come to be realized in the frequent and successful use of the "Shannon Materials."

For the success of the project herein reported, we owe our greatest appreciation to the forty-eight knowledgeable workshop participants whose suggestions and recommendations facilitated the quality and effectiveness of the simulator and its uses; and to Robert L. Sterrett and E. Hugh Woods for their continuous and timely assistance throughout the project year.

Finally, there is, in our opinion, absolutely no way this project would have been successfully completed without the outstanding services of the project secretary, Yvonne Francescon.

CHAPTER I

INTRODUCTION

The prominence given to the care and education of the mentally retarded today is well known. Federal, state, local, and private agencies all have plans and contributions for their education and rehabilitation. Consistent with this, the University of Pittsburgh, with cooperation and funding through the Department of Public Welfare, Office of Mental Retardation, Commonwealth of Pennsylvania, assumed the responsibility for developing training materials for leadership personnel employed in Pennsylvania state schools and hospitals for the mentally retarded. The development of these training materials began September 1, 1969 following a three-month feasibility study. The product resulting from the past two years' efforts has come to be known as the Shannon State School and Hospital Simulation Training Materials.

This document represents the final report of the project activities from September 1, 1970 to August 31, 1971. These activities were completed in compliance with the project entitled, "Pilot Workshops Utilizing the Simulator and Training Materials Developed for In-Service Programs for Leadership Personnel Employed in Residential Institutions for the Mentally Retarded." (Contract No. 21-261-0, Pennsylvania Department of Public Welfare.)

History

The development of the Shannon State School and Hospital Simulation Training Materials from initiation to completion can be described in three distinct phases which included, (1) a feasibility study, (2) the production of the materials, and (3) field testing of the materials.

Feasibility Study, 7/1/69 - 8/31/69*

A feasibility study was conducted during July and August, 1969. This study was designed to determine the feasibility for initiating a simulated state school and hospital model to be used for pre- and in-service training of management personnel employed in state residential facilities for the mentally retarded. Efforts were directed toward the creation of a reality-based simulator designed to represent conditions presently found in such institutions. Management positions within the state school and hospital system were studied to determine the most meaningful training opportunities and the specific type of training program needed.

During the period of the feasibility study, field visits and interviews were conducted with management personnel from the Pennsylvania Office of Mental Retardation and various state schools and hospitals both in and outside Pennsylvania. Along with the field visits and interviews, relevant Central Office and institution documents were

* O'Neil, Lawrence P. Development of In-Service Programs for Leadership Personnel in Residential Institutions for the Mentally Retarded. Report prepared for the Department of Public Welfare, Office of Mental Retardation, Harrisburg, Pennsylvania, 1969 (Mimeographed).

studied. The following three questions were the focal points of the feasibility study:

1. Are there characteristics common to state institutions for the mentally retarded to facilitate development of an analogous model?
2. Are there common management problems which allow for definition of the instructional program?
3. Does sufficient material exist to describe a representative public residential institution?

These questions were answered in the affirmative and results of the study indicated that: (1) simulation was an appropriate training vehicle, (2) present training requirements are such that a verbal analogous model is the most appropriate simulation of a residential institution, (3) there is ample source material and cooperating management personnel to facilitate the simulation, (4) instructional problems to be used in training had to be clearly defined.

From the feasibility study the following conclusions were drawn:

1. Simulation was feasible as a means to training management personnel employed in state institutions for the mentally retarded.
2. A simulator could be developed which was representative and could be used in Pennsylvania.
3. There was a need to clearly define training objectives.

Development of the Simulation Training Materials, 9/1/69 - 8/31/70*

Subsequent to the feasibility study a proposal entitled, "Development of In-Service Programs for Leadership Personnel Employed in Residential Institutions for the Mentally Retarded" was submitted and approved for a period of one year. The purpose of this project was to develop the simulation training materials designed for incorporation in pre- and in-service programs for management personnel employed in public institutions for the mentally retarded. The objectives of this project were:

1. To review literature relevant to simulation and its application for training leadership personnel.
2. To identify the responsibilities and problems of institutional leadership personnel.
3. To collect information relevant to the description, management, and problems of institutions for the mentally retarded.
4. To design and develop a reality-based simulator with appropriate training materials.
5. To develop pre-service and in-service training exercises to implement the simulator.
6. To assess the reliability of the simulator through pilot investigations.

In meeting these objectives a reality-based simulator and training materials were completed. These materials were designed to

* Stevens, Godfrey D., Garove, William E.; Handley, Edward E.; Woods, E. Hugh. The Development of an In-Service Program for Leadership Personnel in Residential Schools for the Mentally Retarded. Report prepared for the Department of Public Welfare, Office of Mental Retardation, Harrisburg, Pennsylvania, 1970 (Mimeographed).

engage management personnel in problem-solving and decision-making activities congruent with problems encountered in institutions for the mentally retarded. The training materials included: (1) slide-tape presentations of the prototype institution and adjoining community, (2) documents describing the simulated institution, (3) in-basket items and "live encounter" items.

Field Testing of Materials, 9/1/70 - 8/31/71

Following the development of the simulation training materials a proposal, "Pilot Workshop Utilizing the Simulator and Training Materials Developed for In-Service Programs for Leadership Personnel Employed in Residential Institutions for the Mentally Retarded," was submitted and approved that allowed for field testing. Field testing was accomplished via three pilot workshops whose participants included representatives from the Pennsylvania Office of Mental Retardation, experts on simulation, management personnel from institutions for the retarded within and outside the state of Pennsylvania, and management personnel representing one of the nine Pennsylvania State Schools and Hospitals for the mentally retarded.

Justification for the Projects

There is an apparent general rationale and justification for projects of this nature. While there are notable exceptions, residential institutions for the care and training of the mentally retarded are regarded to be overcrowded, understaffed, poorly organized, and inadequately financed. (American Association on Mental Deficiency, 1964; President's Commission on Mental Retardation, 1968; Blatt and Kaplan, 1966.)

Attention has been given to correcting inadequacies in services and physical facilities, but little attention has been given to the pre-service and in-service education of superintendents and other management personnel. This practice is not consistent with the procedures of the military, industry, business, government, medicine, and others which routinely provide training programs for their management personnel.

Management personnel, especially superintendents of residential institutions for the mentally retarded, have been trained as practitioners in a variety of professions: medicine, psychology, education, sociology. Their education rarely includes training in the principles and practices of management. In that other professions have found management training to be effective, it is assumed that the management training of superintendents of institutions for the mentally retarded will produce changes which will ultimately affect the quality of services for the retarded. Those who have received management training realize, as do the management personnel in other professions, the necessity for additional in-service management training.

Realizing that improvements in the operation of public residential facilities for the mentally retarded could result from the application of training examples from other professions, the Pennsylvania Office of Mental Retardation, in 1969, contracted with the University of Pittsburgh, Department of Special Education and Rehabilitation, to develop materials for pre-service and in-service training of leadership personnel employed in institutions for the retarded. A reality-based simulator and training materials, hereafter referred to as the Shannon

State School and Hospital Simulation Training Materials, has been developed. The rationale and process of field testing these newly developed materials is described in this Final Report.

Purpose

Following the completion of the newly developed Shannon State School and Hospital Simulation Training Materials August 31, 1970, it was believed necessary to engage in field testing that would give reliable indications of the authenticity and validity of the simulated materials and provide a meaningful mechanism for refining and revising the materials. The purpose of the project herein reported from September 1, 1970 to August 30, 1971 was to field-test, via pilot workshops, the simulation training materials developed under Project 21-22366 (July 1, 1969) entitled, "Development of In-Service Programs for Leadership Personnel in Residential Institutions for the Mentally Retarded." To accomplish this purpose, it was decided to (1) conduct a minimum of three tryouts incorporating the "Shannon Materials" developed for leadership personnel of residential institutions for the mentally retarded, and (2) revise and refine the materials following each tryout. The tryouts were in the form of pilot workshops. Participants included superintendents of Pennsylvania state institutions for the mentally retarded, representatives from the Pennsylvania state institutions for the mentally retarded, representatives from the Pennsylvania Department of Public Welfare, Office of Mental Retardation, management personnel representing institutions and agencies for the mentally retarded throughout the United States, noted authorities in simulation,

and fifteen of Polk State School and Hospital's management staff. Following each workshop, conferences with the participants were held to ascertain the necessary revision for the newly developed simulator.

The three pilot workshops focused upon the validation of the Shannon Simulator to discern its effectiveness for training users to develop decision-making strategies in the context of reality-based management problems fostered in residential institutions for the mentally retarded. It was the task of the workshop participants to determine whether the Shannon Simulator was of sufficient authenticity to train prospective and in-service leadership personnel whose incumbency is the management of residential institutions for the mentally retarded.

Rationale for Project

Having developed the Shannon State School and Hospital Simulation Training Materials, officials of the Pennsylvania Office of Mental Retardation and the project staff realized the necessity for field testing these materials. These materials needed to be field-tested to (1) discern their effectiveness for training in problem-solving and decision-making, (2) assess the simulator's reliability, validity, and authenticity, and (3) ascertain the necessary revisions. The principle underlying the rationale for this project is simply that no new training materials should be produced, published, disseminated and used without adequate field testing.

Objectives

The specific objectives of this project were:

1. To conduct three pilot workshops using as participants (1) superintendents of Pennsylvania institutions for the mentally retarded, (2) simulation experts, administrators of institutions and agencies for the retarded outside of Pennsylvania, and (3) staff personnel from one of the Pennsylvania state institutions for the mentally retarded.
2. To discuss and analyze the results of each consecutive pilot workshop with the participants to discern the necessary revisions for the simulator and the training materials that would enhance their authenticity, reliability, validity and effectiveness.
3. To print and disseminate the simulation materials for implementation as a training device for leadership personnel in Pennsylvania state institutions for the retarded as well as institutions throughout the United States.

Procedures

Procedures for accomplishing the project objectives and discerning compliance with the criterion statements include the following:

1. The simulator and training materials developed in the project entitled, "Development of In-Service Programs for

Leadership personnel in Residential Institutions for the Mentally Retarded" were analyzed to ensure authenticity as an accurate representation of a residential institution for the mentally retarded.

2. The first draft of the simulator and training materials were typed and duplicated to be used in the first pilot workshop.
3. The simulator and training materials were reviewed by the consultants for the purpose of editing and revision.
4. Arrangements were made for three pilot workshops.
5. Three pilot workshops were held and subsequent revisions were made in the simulator and training materials upon analysis of the recommendations of the participants.

Workshop #1 - March 22-25, 1971
 Southern Arizona Training Program
 29th Street and Swan Road
 Tucson, Arizona 85711

Workshop #2 - May 12-14, 1971
 University of Pittsburgh
 Department of Special Education and
 Rehabilitation
 160 N. Craig Street
 Pittsburgh, Pennsylvania 15213

Workshop #3 - June 23-25, 1971
 Polk State School and Hospital
 Box 94
 Polk, Pennsylvania 16342

6. Editing and revisions of the total simulation training materials was completed. This included:

2 - Slide-tape presentations
 14 - Simulated institution documents
 300 - In-basket and live encounter items

7. Simulation training materials were submitted for final printing.
8. The simulation training materials and project information was disseminated through professional channels.
9. The Final Project Report was prepared, printed and submitted to the Commissioner, Pennsylvania Office of Mental Retardation, Department of Public Welfare.

Definition of Terms

Leadership personnel refers to management personnel employed in Pennsylvania state schools and hospitals for the mentally retarded. The term refers to administrative and supervisory personnel including superintendents and directors and encompasses both "line" and "staff" positions.

Simulation is a simplified representation of reality; in this case, a state school and hospital for the mentally retarded.

A simulator is a laboratory device that enables the operator to reproduce under test conditions phenomena likely to occur in actual conditions. (Merriam-Webster, 1969.) In this application, the simulator takes the form of verbal and pictorial descriptions of an institution for the mentally retarded and its adjoining community.

Superintendent or Director refers to the chief administrator of the state school and hospital for the mentally retarded.

Prototype refers to a standard or typical example. (Merriam-Webster, 1969.) In this project the prototype is an institution for the mentally retarded. The word, "prototype" does not mean the "ideal

model" to be followed. It is intended to be characteristic of institutions for the mentally retarded.

Consultant, for the purpose of this study, refers to an individual capable of giving expert advice on the management of institutions for the retarded, care and treatment of the retarded, or on the instructional use of simulation.

Reality-based incidents refer to situations that are likely to occur in Pennsylvania's state schools and hospitals. This connotes incidents that were reported to have actually occurred in the institutions.

Trainee refers to the person participating in the simulation training workshop. In this project, the trainee is the person receiving pre-service or in-service training by means of simulation.

In-basket items refer to any written correspondence such as letters, memos, messages, that might be received by leadership personnel and to which the participant would respond during workshop training sessions.

Live encounter items ("live items") refer to any non-written incidents such as personal encounters, telephone interruptions or observations to which the participant would have to respond during workshop training sessions.

Social Simulation Game, the type of simulation game referred to in this project, always consists of a player or players acting in a social environment. It is concerned principally with that part of an individual's environment that consists of other people, groups, and organizations. (Boocock and Schild, 1968.)

Gaming refers to the conducting of games in simulated environments where there is concern for the interactions and relationships among the participants, and a scoring system exists to assess participant performance.

Participant - For the purpose of this report, the term "participant" refers to a person who has participated or is likely to participate in a simulation workshop or training activity. It is used synonymously with the term "trainee."

CHAPTER II

RELATED RESEARCH INVOLVING DEFINITIONS, CAPABILITIES, LIMITATIONS AND APPLICATIONS OF SIMULATION

Simulation: Definitions, Capabilities and Limitations

Definitions

Simulation has many definitions. Simulation has been defined as:

"An accurate representation of a realistic situation."
(Wynn, 1964)

"A process that involves the participant in decision-making, often under emotional conditions that intensify his motivation." (Rice, 1966)

"The process of conducting experiments on a model instead of attempting the experiment with the real system, process, or situation." (Hovater, 1969)

"Obtaining the essence of something, but without all aspects of reality." (Thomas and Deemer, 1957)

"The process of conducting experiments on a model of a system in lieu of either (1) direct experimentation within the system itself, or (2) direct analytical solution of some problem associated with a system." (Andrew and Moir, 1970)

Simulation activities take place in a reality-based simulator. Webster (1969) defined a simulator as, "a laboratory device that enables the operator to reproduce under test conditions phenomena likely to occur in actual performance." Fattu (1964) defined simulation by describing the kinds of activities which occur in actual performance with the use of simulators.

"Simulation is a blanket term used to cover a multitude of activities, all intended to describe a complex system. Several levels may be identified: human simulation as observed in role playing, mixed man-machine simulations as observed in business and military gaming, and pure computer simulations such as studies of computer problem-solving behavior, or artificial intelligence. Man-machine simulations may range from those involving simple electrical or mechanical devices to those that involve the most sophisticated electronic computers."

Capabilities and Limitations

The capabilities and limitations of simulation were expressed by many authors. (Rice, 1966; Boocock, 1966; Cohen, 1964; Wynn, 1964; UCEA, 1960; Monroe, 1969; Churchman, 1968; Andrew and Moir, 1970; Sachs, 1970; Beck and Monroe, 1969; Rogers, 1970; and others.) The following capabilities and limitations of simulation were stated by Wynn (1964):

Capabilities

1. The evident face validity of the situation stimulates interest and motivation in learning and encourages the trainee to behave as he might in reality.
2. The written record of trainee performances results in the accumulation of normative data and permits clinical examination and comparison of "on-the-job" behavior in identical situations.
3. Simulation permits the learner to profit from mistakes that might be disastrous on the job.
4. The instructor in the simulated situation can provide the trainee with concepts, models, or other information which he can't always send in during the actual game.

5. Simulation provides an opportunity to view each problem in broad context.
6. Simulation permits a degree of introspection rarely provided on the real job.
7. The simulator presents the trainee with an interesting object lesson in simulation as a medium of instruction which he may find useful in his own situation.
8. Simulation presents an extremely useful research medium permitting the collection of normative and comparative data on behavior and performance in identical situations.

Limitations

1. Simulation depends heavily upon the competence of the instructor using it.
2. Simulated materials are expensive to produce and are subject to obsolescence.
3. Considerable uninterrupted time is needed for full comprehension of the background materials before in-basket items can be undertaken.
4. There is also the question of transferability of learning from the simulated situation to others.
5. Much more experience is needed with simulation before all of its advantages and limitations are clearly perceived.

Applications of Simulation

Simulation as a training and evaluation technique in the investigation of behavioral and substantive capacities has been used

by the behavioral sciences and other disciplines and professions. Applications of simulation training have been made by military, business, and industry, social sciences, medicine, and education.

Behavioral Science Applications

In the past decade simulation was used extensively in the behavioral sciences. Researchers in psychology have demonstrated the applicability of simulation in laboratory experimentations. L. Jean Thomas (1962) published an extensive bibliography of reports issued by the Behavioral Sciences Laboratory which incorporated simulation training in emergency psychology, training, psychology, environmental stress simulation techniques, and physical anthropology. Simulation and its applications to psychology were further investigated by Martin and Hall (1960), Seibel (1961), Vandenberg, Green, and Wrigley (1962), and Baker (1963), Siegle, Wolf, and Lanterman (1963), utilizing man-machine simulation. It was concluded that simulation can be an accurate tool for studying performance and has applications as a training device.

Military Applications

The military has made extensive use of simulation for training and instructional purposes. Simulated strategic and tactical considerations have been formulated within the military academies and war colleges of Germany, Japan, Britain, and the United States for the past century. Several military operations of World War I and World War II were the consequences of war game sessions. Contemporary military applications of simulation encompass not only tactical development, but also the training of personnel through simulated devices such as the Link Trainer.

Recent military studies of simulation centered on the problems of training crews and military personnel. (Hartman and McKenzie, 1960; Muckler, Obermayer, Hanlen, Fero, and Rockway, 1961; McNulty, 1962; Siegel, Wolf, Warick and Miehle, 1964; and Steinemann, 1966.)

Business and Industrial Applications

Business and industrial applications of simulation were reported by many researchers (Eckman, 1961; Greenberger, 1962; Greenlaw, Herron, and Rawson, 1962; Hoggatt and Balderston, 1963). Broadbent (1967) described the use of simple functional simulations in business, including the Greene and Sisson's Materials Inventory Management Game that used simulation to teach a formula for inventory control and the American Management Association's Decision Simulation which included total enterprise games. Zuckerman and Horn (1970) reported on one hundred thirty-five simulation games used in management training for business and industry. An example of these is the Carnegie Tech Management Game developed for use at the graduate school level to provide a dynamic environment in which students study business management.

Social Sciences Applications

The use of simulation in the social sciences was discussed by Coleman (1961), McKean (1961), and McPhee (1963). Guetzkow (1962), and Guetzkow and others (1963) applied simulation to the study of government and international relations. Noel (1969) described the "POLIS" laboratory (POLITICAL INSTITUTIONS SIMULATION) which is concerned with the use of social simulation and gaming methodologies in

instruction and research. The POLIS laboratory encompasses studies concerned with the political community in its broadest sense and reflected and encouraged interdisciplinary collaboration.

Medical Applications

An application of simulation in medicine was executed by McGuire and Babbott (1967). They reported the development of simulated patient-physician encounters using a series of branching problems in a clinical setting. Simulated patient symptoms and clinical information were presented to the trainee, who, through a series of decision-making exercises, arrived at a final diagnosis.

Educational Applications

Teacher Training

Simulation has been used in teacher training during the past decade. Newell and Simon (1961), Laughery and Gregg (1962), and Feigenbaum and Feldman (1963) have shown specific investigations of the teaching-learning process that resulted in simulated learning models. Research by Pool and Abelson (1961), and McPhee (1963), resulted in simulated teaching models. Rice (1966) described the use of simulation in the program of teacher education at Indiana University. He stated that simulation experiences helped overcome the deficits found in student teaching programs. Broadbent (1967) reported the development of a simulated fifth-grade classroom that gave student teachers an opportunity to experience problems faced by beginning teachers. Kersh (1961) described a facility called the Classroom Simulator that permitted student teachers to react to a variety of classroom situations and practice

teaching skills under expert supervision. Utsey, Wallen, and Beldin (1966) developed a filmed simulation for training reading teachers to assess children's reading levels.

Educational Administration

Simulation is presently being used to train educational administrators. Wynn (1964) reported that, "Since 1959 at least sixty-five universities have used simulated materials for training school administrators." The American Association of School Administrators (1961) reported on applications of simulation. The University Council on Educational Administration (UCEA) in 1961 developed an extensive simulator of a public school system. The simulated "Madison School District" has been used by numerous universities. In addition to the "Madison Simulator," UCEA in 1970 developed the Urban Simulator (URBSIM) simulation materials to accommodate training administrators for the urban school setting.

Stevens (1970) at the University of Pittsburgh, Department of Special Education and Rehabilitation, is completing an extension of the "Madison" materials to include materials for the training of directors of special education. In April, 1971, the University of Pittsburgh, in cooperation with UCEA and representatives from the Department of Special Education and Rehabilitation, Syracuse University, began preparing additional materials for URBSIM to include the role of Director of Special Education.

Sage (1969) developed the Special Education Administration Task Simulation Game (S.E.A.T.S. Game). The S.E.A.T.S. Game provides students with an opportunity to encounter standardized experiences

dealing with typical problems confronted by special education administrators, and to compare various approaches to the solutions to these problems. Sage and Sontag (1970) developed the State Education Agency Simulation Exercises (S.E.A.S.E.). This reality-based simulator is designed for the training of special education administrators in state departments of education.

Residential Institution Management

Stevens, Garove, Handley and Woods (1970) used simulation as a means for developing a training program for persons in leadership positions employed in the public institutions for the mentally retarded in the Commonwealth of Pennsylvania. The Shannon State School and Hospital Simulator is designed to facilitate problem-solving and decision-making strategies for short and long range planning for the improvement of programs, facilities, management, and staffing.

The Use of Simulation in Testing and Evaluation

Simulation and the use of the in-basket technique has been used to evaluate management performance. Frederiksen (1962) developed what he referred to as the In-Basket Test. This test simulated important aspects of management positions. Recorded results from this test constituted data for studying behavior in a realistic, complex, standardized situation. Fleishman (1967) cited a study reported by Lopez (1966) in which the Bell System, in cooperation with Educational Testing Services (ETS), constructed in-basket items to elicit specific behavior that would enable managers and potential managers to practice decision-making in basic business functions. ETS developed a scoring rationale

and technique for the in-baskets. It was found that, "the responses of individuals to in-basket test problems can be scored in a way to reflect important qualities of management performance." Lopez also reported the use of in-basket tests to "obtain a more thorough and accurate evaluation of the test as a predictor of [management] performance." The results indicated (1) a significant relationship exists between in-basket test performance and on-the-job behavior; (2) that the in-basket test was of value in identifying an individual's "style of managing;" and (3) that the information obtained from in-basket test scores was of value for manager selection and placement.

Twelker (1970) cited examples of simulation used in the assessment and evaluation of performance in various activities. Twelker stated that simulation "offers a unique opportunity to assess performance in a life-like setting that often cannot be tested by other means."

Simulation is regarded as a useful technique for testing strategies for organizational change under laboratory conditions. (Kothera, 1967; Weinberger, 1965; Hemphill, Griffiths, and Frederiksen, 1962; Cleland and King, 1968.) Studies by Newell and Simon (1963) and Crawford (1966) discussed simulation as a means of exploring human behavior.

Summary

Simulation has been used by many professions for training, instruction, research, planning, measurement, testing and evaluation. Various types of simulators have been developed for use in training leadership personnel. Simulation has many definitions but can most

practically be defined in the sense of this project as a simplified representation of reality. Simulation, for instructional use, has capabilities which include problem-solving and decision-making opportunities under low risk conditions, time compression, immediate feedback, records of performance, trainee introspection, and use as an experimentation and research mechanism. The limitations of simulation include a heavy reliance upon the competence of the instructor, materials which are subject to obsolescence, the need for considerable uninterrupted time to comprehend the background material, the lack of empirical evidence concerning the transferability of learning, and the need for more experience in the use of simulation. A reality-based simulator of an institution for the mentally retarded has been developed making simulation feasible for training leadership personnel employed in Pennsylvania state schools and hospitals for the mentally retarded.

CHAPTER III
DESCRIPTION OF THE SHANNON STATE SCHOOL AND HOSPITAL
SIMULATION TRAINING MATERIALS

The effectiveness of simulation is determined primarily by the content of the training materials. The metaphor employed by computer scientists, "garbage in, garbage out," reflects this need for effective content. Simulation, like the computer, is a tool which is dependent upon content for effectiveness. The collection of precise information is therefore critical to the task of developing simulation training materials for leadership personnel. Such precision will impede the accumulation of figurative "garbage" in the training materials. The Shannon State School and Hospital Simulation Training Materials include the following:

- 1 - Slide-tape presentation of the prototype community
(12 minutes)
- 1 - Slide-tape presentation of the prototype institution
(22 minutes)
- 16 - Institution and related documents:
 - 1. Administrative Handbook
 - 2. Community Description
 - 3. Employees Handbook
 - 4. Institutional Procedures
 - 5. Institution Description
 - 6. Historical Review

7. Parent Handbook
8. Annual Report
9. Hospital Improvement Project
10. Emergency Procedures
11. A.A.M.D. Team Evaluation
12. Ten Year Building Projection
13. Institution Budget
14. Institution Data -

Staff Rosters
Organization Charts
Maps

15. Narrative for City of Shannon
16. Narrative for Shannon State School and Hospital

166 - In-basket items

138 - Live encounter items

In-basket and live encounter items are presented in five modes: letter, memo, telephone message, telephone conversation, and personal encounters. These items are divided into the following eight problem categories:

1. Residents
2. Staff
3. Facilities
4. Programs
5. Laws and Regulations
6. Business and Finance
7. Community
8. State and Regional Office

State Office documents including laws, regulations, and policies relating to institutions for the mentally retarded, Civil Service Regulations, and State Department organizations are not included in the training materials. The "Shannon Materials" were so designed to facilitate their use within any state organization. The instructor using the "Shannon Materials" can use the organization, laws, regulations, and policies of the state in which the materials are being used.

The remaining sections of this Chapter will be used to give a more detailed description of all the materials included in the Shannon State School and Hospital Simulator.

Slide-Tape Presentations

City of Shannon

As the concept of the "continuum of care" develops, there is an increasing awareness that the institution and the community in which it is located are developing an increasingly cooperative relationship. When institutions for the retarded were viewed as custodial facilities, there was little community involvement. Now that societal pressures for restorative treatment have emerged, the community's role has become an indispensable part of the overall success and effectiveness of the residential institution's program.

To parallel this developing symbiosis between community and institution, the project staff determined that a slide-tape presentation of the most salient aspects of a simulated community should also be presented to the trainee. This would (1) permit the trainee to resolve problems and make decisions in the context of both the prototype

institution and community, and (2) provide a reality dimension that allows for visual conceptualization and interpretation of the community. The slide-tape presentation of the City of Shannon introduces the trainee to Shannon's history, business and industry, economy, government, organizations and agencies, recreation, transportation, housing, and places of interest in the community. This presentation contains eighty (80) color slides and its showing time is approximately twelve (12) minutes.

Shannon State School and Hospital

The process of simulation training has as its base the use of realistic training environment. The "Shannon Materials" contain a slide-tape presentation which portrays the participant's actual work setting. This presentation is approximately twenty-two (22) minutes and contains eighty (80) slides depicting Shannon State School and Hospital's residents, living units, medical, educational and other programs and physical facilities.

Institution and Related Documents

Administrative Handbook

The Administrative Handbook is a comprehensive document that gives a broad description of Shannon State School and Hospital and its code of organization. Job descriptions of key institution personnel, including the Superintendent, Medical Services Director, Management Services Director, and others, are given along with a description of the major divisions of the institution. This manual was written for

institution employees who supervise major program areas of Shannon State School and Hospital. For the purposes of simulation training, it is designed to provide a general knowledge and guidelines that will help the trainee to better understand the functioning of this institution. This document should be used early in the training sequence.

Community Description Document

This document is meant to coincide with the slide-tape presentation of the City of Shannon. It is a detailed description of Shannon's historical background, government, businesses, and industries, clubs and organizations, recreation facilities, schools and institutions, vital statistics and geographical data. Participants in the simulation training activities should be given this document prior to simulation training, or early during the training sessions. It will enable them to become totally familiar with the City of Shannon and assist them in making decisions regarding community relations problems and the establishment of resident programs within the community.

Employee Handbook

The Employee Handbook affords the simulation training participant the opportunity to learn both the rules and regulations and the benefits employees receive working at Shannon. Discussed in this document are such things as working hours and shifts, time-keeping, payday, salary, leave time, overtime, resignation, and dismissal, transfers and grievance procedures. Services and facilities for the employee are discussed. Included among these are information about the personnel office, rest periods and coffee breaks, meal facilities, parking, social

security, retirement, workmen's compensation insurance and other benefits. One section of this document is devoted toward informing the employee of his duties and obligations toward the residents. Guidelines entailing resident mail, accepting and giving of gifts, resident money, injuries to residents, and so forth are discussed in detail. Guidelines concerning such things as employee dress, personal telephone calls, possession of alcohol, narcotics or concealed weapons, the reporting of accidents, and employee organizations, are discussed. This is a very important document in the total simulation training package in that many of the participant's responses to in-baskets and live encounter items regarding staff and personnel problems will be contingent upon a knowledge of the contents of this document.

Institution Procedures Manual

This comprehensive manual contains the procedures for admission, transfer, and discharge of residents. It gives a detailed description of the procedures to be used by physicians, nurses, and attendants, with respect to medical and dental services. It is pertinent that the simulation training participant have knowledge of this document if he is to resolve problems and make decisions regarding residents.

Institution Description

The Institution Description document provides the simulation training participant with a complete verbal description of Shannon State School and Hospital. Discussed in this document are the philosophy and objectives of the institution. A historical review, along with current data regarding residents, staff, and programs, are provided. Institution

programs such as social services, medical and dental services, nursing and cottage life, Foster Grandparents, physical and occupational therapy, psychological services and education are described in detail. This is a primary document in the total simulation training package and should be used early in the training sequence. This document, along with the slide-tape presentation that describes Shannon State School and Hospital, gives the participant the necessary perspective to handle problems effectively in the simulator.

Historical Review

The Historical Review of Shannon State School and Hospital represents a college thesis about the development of the institution's education and training program. This is the only document in the total simulation package that gives the simulation training participant a historical perspective. This document is primarily intended for use in long-term training, lasting over a period of three weeks, where it is incumbent upon a participant to be totally familiar with all of the Shannon materials.

Parent Handbook

This document, entitled "What You Should Know About Shannon State School and Hospital," represents a typical booklet prepared for the benefit of parents and others interested in the residents of Shannon State School and Hospital. It contains a brief history of Shannon State School and Hospital, a discussion of what mental retardation is, and what can be done for the mentally retarded. Also included is information about rules and regulations, visitations, and vacations, correspondence,

gifts, and spending money. It was a necessary document if the training materials were to be complete.

Annual Report

This document represents the most recent annual report of Shannon State School and Hospital. Discussions of the most recent activities in each of Shannon's programs are included. Innovations in resident treatment, training, therapy and related services are featured. One section of this document is devoted to Shannon's involvement in community services. The most current information about Shannon State School and Hospital is contained in this document. This document is particularly effective in short-term simulation training sessions where the participant needs a quick reference to activities taking place in the Institution.

Hospital Improvement Project

Like most residential institutions for the mentally retarded, Shannon State School and Hospital has a hospital improvement project. This document contains a grant application entitled, "A Vocational and Social Adjustment Training Program for the Mentally Retarded." Several in-basket and live encounter items are based on this document. This document is intended for use during long-term simulation training sessions of more than two weeks duration.

Emergency Procedures

This brief document contains the procedures that Shannon employees should follow in case of emergencies such as a fire. Instructions concerning the evacuation of residents, notifying proper authorities,

and the duties of institution personnel in times of emergency, are given. The simulation training participant should become familiar with this document because some in-basket and live encounter items are based on information contained in this document. After simulation training participants have become familiar with the background materials describing Shannon State School and Hospital, this document can become the focal point of particular simulation sessions involving the participant in the handling of emergencies.

A.A.M.D. Team Evaluation

This is the copy of the final report of the professional teams that evaluated Shannon State School and Hospital. It contains a summary of the team ratings showing which standards were "met," "partially met," and "not met" and a graphic summary of these ratings. It also includes a summary statement of the strengths and weaknesses for each major section of the Institution and a team explanation for some of the standards not being met. This document gives the simulation training participants a current report on Shannon State School and Hospital done by an outside agency. It is the focal point of several in-basket items and should be used in the training sequence following the participant's familiarization with the Institution background materials.

Ten-Year Building Projection or Projected Facilities

This document contains pictures and a verbal description of Shannon's major facilities. Included are the major significant buildings used solely in program support activities. Each cottage is

described in terms of the number of residents and the established criteria for the admission of residents to each cottage. This document is essential to the simulation training participant when involved with in-basket items and live encounter items concerned with future building and program needs. It can be used at any time during the simulation sequence.

Institution Budget

This document is a current and complete budget for all the departments within Shannon State School and Hospital. For short-term simulation session of one week or less, this document is intended only to be used as resource information. For simulation training sessions designed for an extended period of time, the budget document should be made available to participants following their familiarization with the Institution background documents. In-baskets and live encounter items have been prepared to coincide with the use of this document requiring its use in decision-making and problem-solving.

Institution Data

This brief document contains the staff roster, organization charts, and several maps of Shannon State School and Hospital. It is designed for use in all simulation training sessions. It provides a quick reference that will familiarize participants with the key personnel whose names appear on many of the in-basket items. It becomes a pertinent document when discussing items involving the organization of the Institution and the construction or razing of Institution buildings.

Narrative for the City of Shannon

This document is intended only for the use of the instructor. The instructor should become familiar with the narrative for the purpose of discussing the salient aspects of the City in relation to in-baskets and live encounter items involving information about Shannon. The instructor needs to keep decisions made by the participants involving the City of Shannon in their proper context.

Narrative for Shannon State School and Hospital

This document was designed for use by the participants. An in-basket item requiring the participants to review and assess this narrative is contained in the simulator. It is intended to reinforce the participant's familiarization with the institution following his viewing the institution's slide-tape presentation. This narrative can be used early in the training sequence following the use of the basic background material.

In-Basket Items

The in-basket technique of instruction was chosen as the vehicle for conveying reality-based incidents and information to the trainee functioning as a leadership person in Shannon State School and Hospital. The in-basket is, when used in this manner, a collection of written items which could very likely be on a leadership person's desk in a "normal" day's work. These simulated items may consist of letters, requisitions, telephone messages, and any other item common to the leadership person's incoming mail. The in-basket technique was selected because it provides an opportunity for the trainee to engage in problem-

solving and decision-making on many and varied incidents under low-risk conditions.

All of the in-basket items included in the "Shannon Materials" were collected via personal interviews with leadership personnel employed in Institutions for the retarded and from actual correspondence. Reality-based incidents were collected on interview forms by the project staff during the personal interviews and later transcribed into in-basket items. Actual correspondence collected on site visits to state schools and hospitals has absolute face validity. Only the identifying characteristics such as names and places were removed from each correspondence to ensure anonymity.

In-basket items are used in the simulation training sessions to confront the participant with a problem designed to elicit responsive behavior. The participant must react, describing in writing the action he would take. These in-basket items are later discussed and compared by the participants. An example of an in-basket appears on the following page.

"Live Encounter" Items

Live encounter items or "live items" refer to simulation training items that confront the participant in a mode other than written. In the Shannon Materials, live encounter items are presented to the participant in the form of telephone calls and personal encounters. Like the in-basket items, they are divided into eight problem categories and are designed to elicit responsive behavior through role playing. In live item encounters, participants and instructors assume roles such as the superintendent, clinical director, business manager, personnel

35a.

SAMPLE IN-BASKET ITEM

1414 Spring Grove Road
Shannon 90001

Mr. Alan Kennedy, Superintendent
Shannon State School and Hospital
Shannon 90001

Dear Mr. Kennedy,

Several days ago I toured the institution with Mr. Brace and several other people interested in becoming volunteers at your institution. We toured many of the buildings and were very impressed by the condition of the buildings, the attitude of the staff, and the well-being of the residents.

Mr. Bruce did not take us to several of the buildings; for example, Cottage #3. And after the tour, I inquired as to why we did not get to visit several of the other buildings. From some people who should be in the know, I learned that some of the things going on in the buildings we did not visit are not shown to the public. From the information I received, I understand that some of the buildings have inmates that engage in fighting, poor toileting habits, and other undesirable things. If this is true, I believe the volunteer tour is a very deceptive one. People who intend to become volunteers have a right to see "the whole picture." A one-sided tour is hardly justifiable, don't you agree?

Sincerely yours,

Mrs. Willard Patillo

(Mrs.) Willard Patillo

officer, and social service director, and interact to resolve particular problems in Shannon State School and Hospital.

The following is an example of both a live encounter telephone call and personal encounter faced by the participant playing the role of Mr. Alan Kennedy, Superintendent of Shannon State School and Hospital.

Telephone Call

To: Alan Kennedy

From: Louise Hartman, Director of Nursing Services

Essence: Hello Mr. Kennedy. I just had a call from one of our attendants, Mr. David Lee. Mr. Lee has reported that his physician has diagnosed him as having hepatitis, and he is being admitted to St. Joseph's Hospital. I am wondering if we should give gamma globulin to the other people on the staff who have had contact with him.

Personal Encounter

Incumbent: Alan Kennedy

Participant: Clara Maves, Director of Psychology

Essence: Mr. Kennedy, I've had some time to look over the training and education department, especially the school program. I think there is a basic flaw in their procedures for training, and I wanted to bring it to your attention.

The School Program should be pushing first for individual instruction. It is my belief that individual

instruction must take place before classroom instruction. The resident's learning style and behavior goals have to be determined before he goes into the classroom.

I am going to approach the Training and Education Department about this and I am probably going to need your support. As you are probably aware, there will be some ego involvement as well as the usual resistance to change.

Summary

All of the Shannon State School and Hospital Simulation Training Materials are reality-based. The slide-tape presentations of the Institution and community depict actual places. Actual names have been changed to maintain anonymity. The Institution and related documents and in-basket and live encounter items are not contrivances. The project staff attempted to develop a comprehensive simulation package that accommodates to problem-solving and decision-making with authentic resources.

The simulation materials described in this chapter were used in three pilot workshops. How these materials were used in the workshop settings is discussed in the next chapter.

CHAPTER IV

PILOT WORKSHOPS UTILIZING THE SHANNON STATE SCHOOL AND HOSPITAL TRAINING MATERIALS

Purpose of the Workshops

The purpose of conducting three pilot workshops was to,

- (1) discern the authenticity of the Shannon State School and Hospital Simulation Training Materials for training management personnel employed in residential institutions for the mentally retarded, and
- (2) revise and refine these materials following each workshop. During each workshop day the project staff kept notes of participant suggestions and recommendations regarding the materials. Following each workshop, conferences with the participants were held to, (1) ascertain the necessary revisions for the newly developed simulator, (2) assess the reliability of the simulator, and (3) evaluate the validity of the simulator in-basket and live encounter items to discern their effectiveness for training in problem-solving and decision-making in the context of a state school and hospital for the mentally retarded.

Workshop Objectives

The objectives for the three pilot workshops did not reflect a concern for, or emphasis upon the training or retraining of the participants. Instead, the objectives of the workshops were consistent with the purpose of the workshops in that it was intended only to

introduce the "Shannon Materials" to the participants for the purpose of making revisions following their use. The workshops were intended to be profitable learning experiences but the training of the participants was not considered a workshop objective.

The workshop objectives were:

1. To give the participants a complete up-date on the development of the Shannon State School and Hospital Simulation Training Materials.
2. To have the participants utilize the "Shannon Materials" in a simulation training workshop setting for the purpose of analysis and evaluation.
3. To elicit from the participants information needed to revise and refine the "Shannon Materials."
4. To obtain each participant's suggestions and recommendations for the use of the "Shannon Materials" in pre- and in-service training of management personnel.

Workshop #1

Workshop #1 was held March 22-25, 1971 at the Southern Arizona Training Program in Tucson. Host for this workshop was Dr. Joseph Hubbard, Director of the Arizona Department of Mental Retardation. Participants in Workshop #1 included superintendents and directors of residential institutions for the mentally retarded outside the state of Pennsylvania, representatives from the Pennsylvania Office of Mental Retardation, administrators of national agencies concerned with the care and treatment of the mentally retarded, noted authorities

in the instructional use of simulation and leadership personnel from institutions for the retarded in Arizona. A complete list of the names and addresses of Workshop #1 participants can be found in Appendix A.

Workshop #1 participants were selected because of their expertise and involvement with agencies directly concerned with the care and treatment of the mentally retarded. The project staff had a difficult time deciding whether to present the unrevised "Shannon Materials" initially to this group or first try out the materials with less sophisticated groups. Eventually it was decided to use the first draft materials with the most sophisticated group on the premise that they would provide the greatest input for subsequent revisions. Fortunately the Workshop #1 group reacted favorably to the unrevised version of the "Shannon Materials." Subsequent workshop groups were able to benefit from revisions made in the training materials as a result of the suggestions and recommendations of the Workshop #1 participants.

The results of Workshop #1 will be discussed along with Workshops #2 and #3 in the Summary section of this Chapter. Since a similar format was used for each workshop, a detailed description of Workshop #2 will follow with accompanying photographs, in order to demonstrate the activities included in a typical workshop.

Workshop #2

Workshop #2 was held May 12-14, 1971. Participants at this workshop included all the superintendents from Pennsylvania State Schools and Hospitals for the mentally retarded, Directors and MH/MR specialists from Department of Public Welfare Regions I, III, IV, V; Dr. Donald H. Jolly, Commissioner of the Office of Mental Retardation; and Miss Bernice

Baumgartner, Special Education Program Director, Pennsylvania Office of Mental Retardation. Names and addresses of the participants are cited in Appendix B.

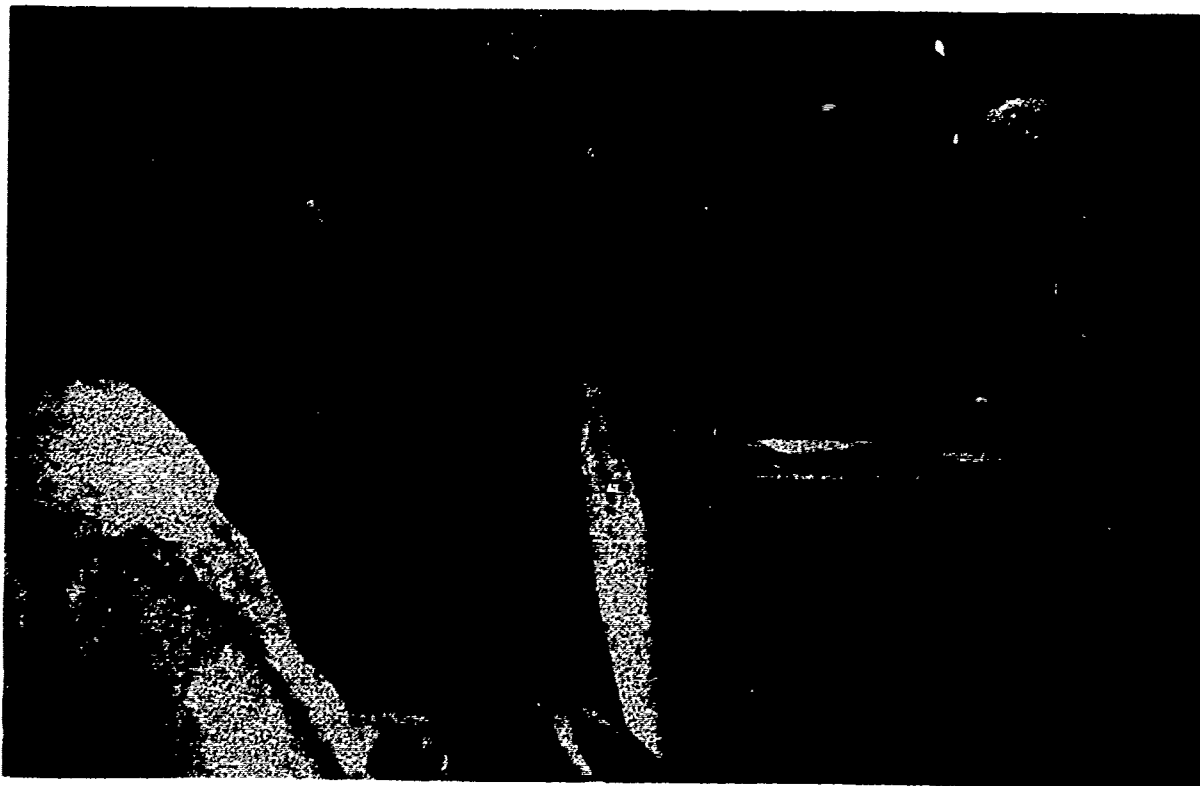
The purpose and objectives of this workshop were the same as Workshop #1; however, the "Shannon Materials" and the workshop format was revised with respect to the recommendations made by the Workshop #1 participants. The following paragraphs and pictures are intended to coincide with the major components of the Workshop #2 agenda.

Every workshop requires numerous hours of planning and simulation training workshops are no exception. The project staff found that preparation of materials and planning which ultimately led to an agenda of activities that would meet the workshop objectives required at least one day preparation time for every workshop day. This did not include such things as sending invitations and arranging travel and lodging for the participants. All the pre-workshop activities culminate in an agenda. This agenda appears as Appendix H.



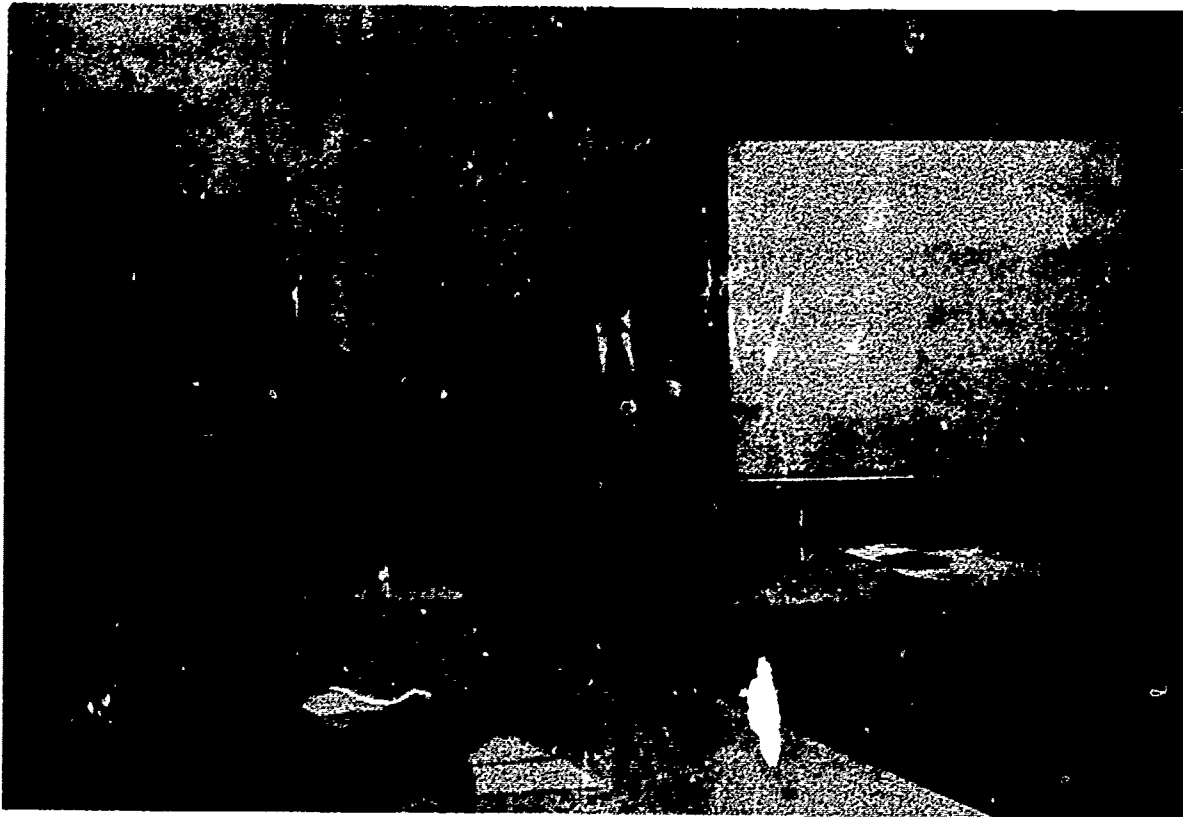
Workshop #2 Agenda

Simulation Workshop #2 began with an introduction of the project staff and the participants. The project staff is shown in the following picture making final plans before the start of the workshop: From left to right are Dr. Godfrey D. Stevens, Project Director, William E. Garove, Principal Research Assistant, and E. Eugene Handley, Senior Research Assistant.



Dr. Stevens, Mr. Garove, and Mr. Handley: Pre-Workshop Planning

Following the introduction of the staff and participants, a brief lecture was given entitled, "Statement of Problem." In this lecture, Dr. Stevens, in the following picture, discussed the "problem" in six dimensions:



Dr. Stevens: "Statement of the Problem"

1. There is a need for management training materials specifically designed for leadership personnel directly involved in the care and treatment of the mentally retarded residing in state and private institutions. Colleges and universities traditionally have had programs designed to train administrators of public and private school special education programs but few, if any, college programs exist for the purpose of training personnel for management positions in large residential or small community-based facilities for the retarded.

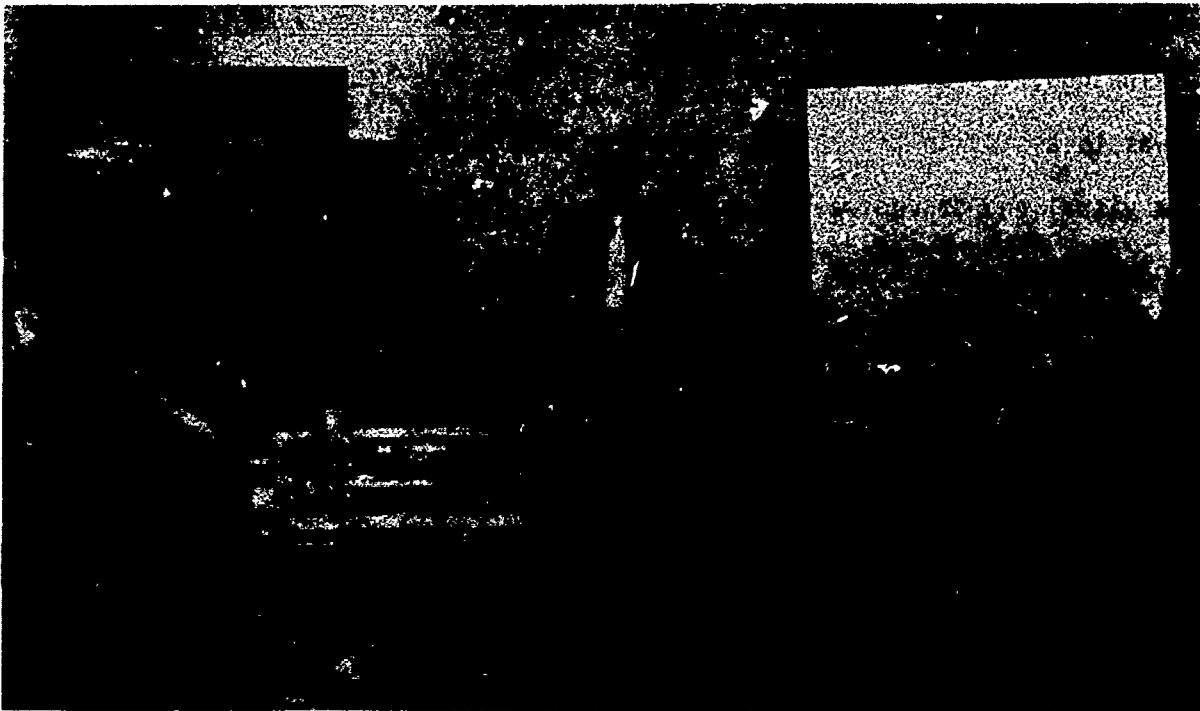
2. The A.A.M.D. Standards Report of 1964 and the 1968 Report of the President's Committee on Mental Retardation pointed out many of the inadequacies in residential care facilities for the retarded. Although not empirically shown, there may be a direct relationship between institution inadequacies and the quality of training of an institution's management personnel.
3. Business and industry recognizes the need for pre- and in-service training of its management personnel. Corporations such as Bell Telephone, Westinghouse Electric and General Electric conduct ongoing in-service management training programs which include the use of instructional simulation. There is a need to recognize and analyze those training methods used successfully by other professions and employ them in training institution personnel.
4. There is a need for management training materials that are both motivating and realistic. Simulation, especially when compared to the lecture method, is reportedly more motivating and has as its base a realistic training environment. Participants report a degree of involvement that surpasses conventional training methods.
5. Training materials are needed that are diverse enough to be used with all job classifications of institution management personnel and that have the capability and flexibility of expansion to include the most recent

innovations. Training methods are needed that have useful longevity beyond conventional workshops and conferences dominated by lectures or oriented toward the teaching of one particular technique.

6. Management training must be reality-based, relevant, and provide for problem-solving and decision-making opportunities in a context similar to the trainees' actual working environment. Many of our present pre- and in-service management training programs are directed towards teaching more effective decision-making skills but unfortunately do not involve the trainee with actual problems of institutional management.

After the "Statement of Problem" lecture, the workshop participants received the first of two Participant Questionnaires designed to elicit information regarding such things as the participants' institutional employment background, what they believe to be the most critical problems in institutional management, and their expectations concerning the simulation workshop. This information is reviewed by the project staff the first day of the workshop to ensure that in-baskets and live encounter items will be used that are concomitant with what the participants consider to be critical problems in institutional management. Participant Questionnaire #1 is included as Appendix D.

Following the Participant Questionnaire, a lecture entitled, "Simulation: Definitions, Uses, Capabilities and Limitations" was given by Mr. Garove, pictured next. The content of this lecture is implied by its title and is a more in-depth discussion of the topics cited in Chapter I, pages 14-23.



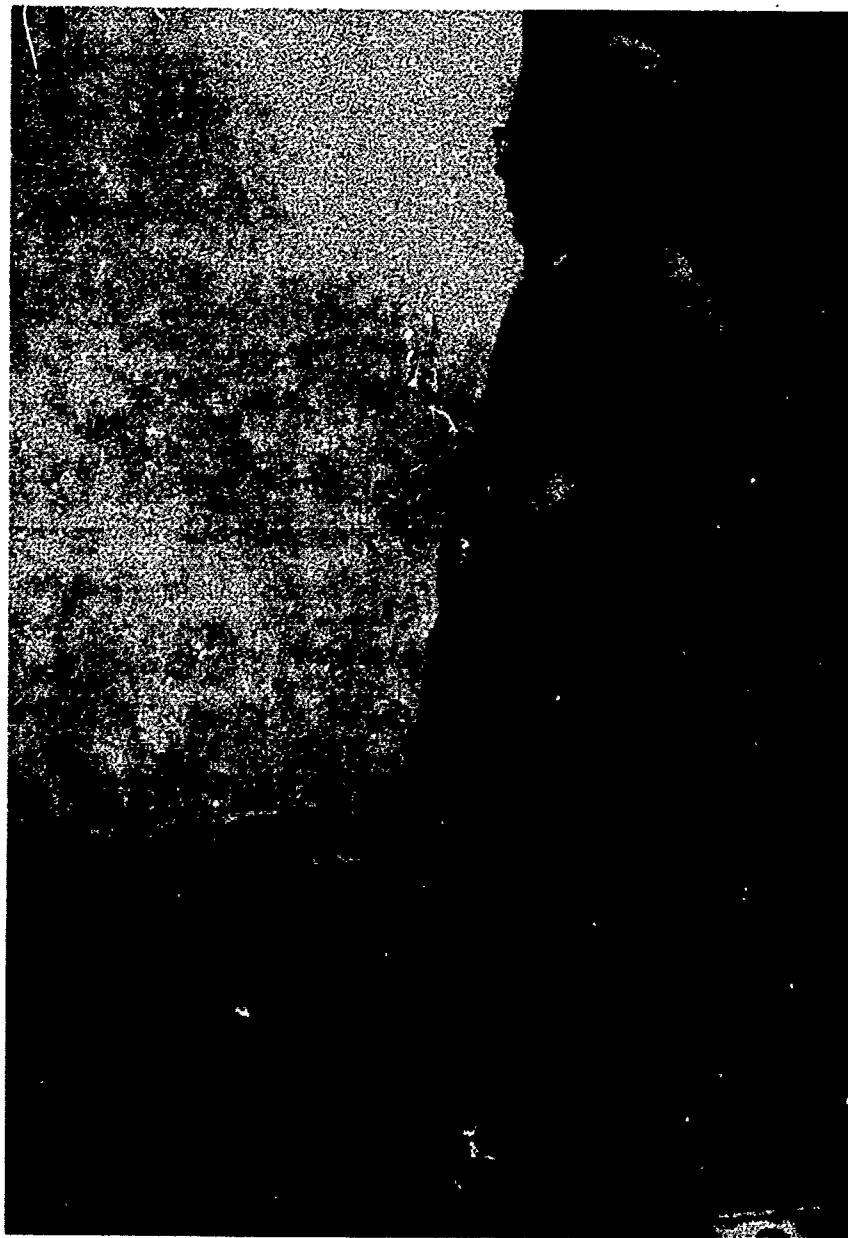
Mr. Garove: "Simulation: Definitions, Uses, Capabilities and Limitations

It was at this point in the workshop that the participants were told of the specific role they were to assume in the Shannon State School and Hospital Simulator. It was explained that:

As a participant in the Institution Simulator, you will assume the role of Alan Kennedy. Mr. Kennedy, as the Superintendent of Shannon State School and Hospital, faces problems which are typical of those faced by superintendents in existing institutions for the retarded. As Mr. Kennedy, you will encounter increasingly complex problems as you progress through the simulation program. By the time you reach the end of the total simulation training program, you will have encountered a full range of challenges under simulated "low risk" conditions.

Having received information about the concept of simulation and the role they were to assume in the simulator, the participants were taken to the City of Shannon and Shannon State School and Hospital

via slide-tape presentation. Mr. Handley, shown below, prior to the viewings, explained that the purpose of the slide-tape presentations was to assist in the reality dimension of the simulator by providing a visual and conceptual frame of reference that would enable the participants to resolve problems and make decisions in the context of both the simulated community and institution.



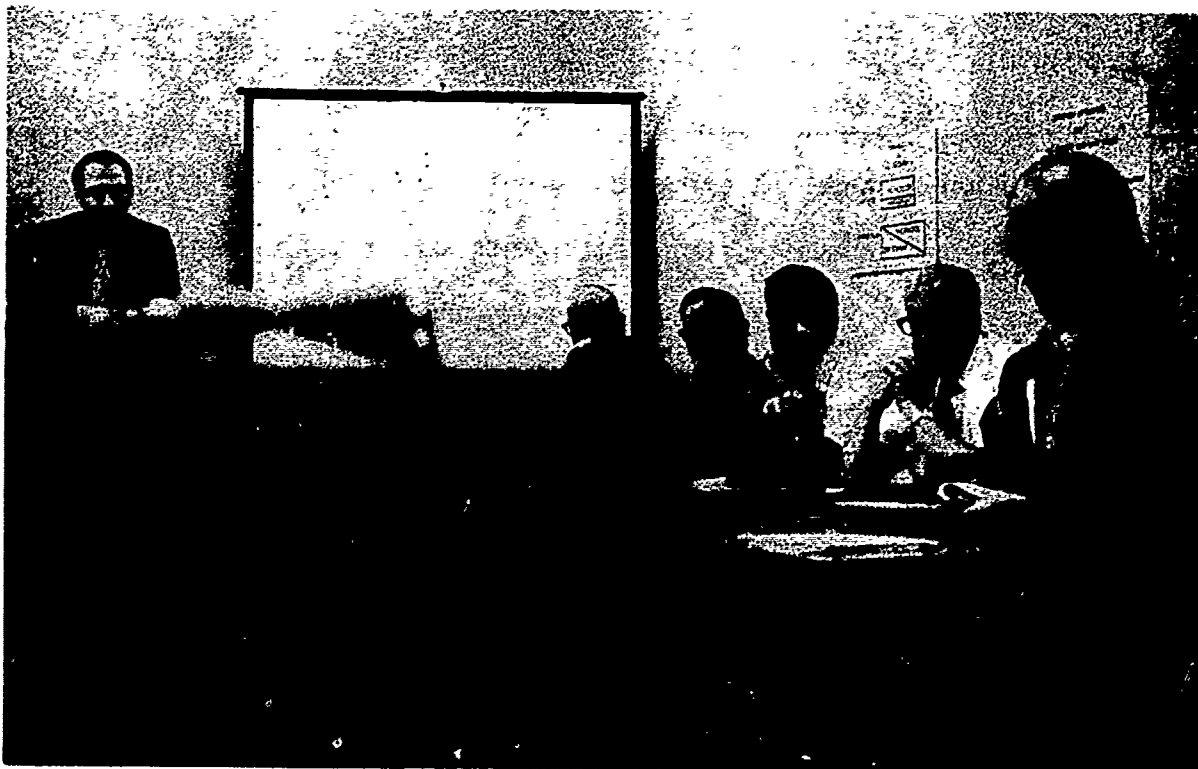
Mr. Handley: Slide-tape Presentations of Institution and Community

At this time, difference between role playing and simulation was discussed. Role playing is one part of simulation in that participants play occupational and other particularized roles. Role playing as perceived in the psychological idiom allows for uncontrolled free association to situations. In simulation, the role playing is done in a particularly defined context; in this case, Shannon State School and Hospital and its adjoining city. In playing roles, participants cannot make up names of people or positions or fabricate names and numbers of cottages that do not exist in Shannon State School and Hospital.

Having seen the slide-tape presentations of the simulated Institution and community, the participants were ready to engage in simulations using reality-based in-baskets and live encounter items. Before the simulations began, the participants were shown video-tape playbacks of previous workshop participants. This was done to both familiarize them to the nature of the "live items" that they could expect to encounter and sensitize them to the video-taping. Most participants are not used to solving problems and making decisions in front of cameras, even under simulated "low risk" conditions. Shown in the next picture are Workshop #2 participants intently watching video-tape playbacks of previous workshop participants.

The simulations began with team games. The fifteen participants were each given a set of in-basket items and grouped into three teams of five. Each participant had three Institution documents at his disposal: Institution Description, Administrative Handbook, and Annual Report. One copy of the Budget was made available to each team. In

the team games the participants were instructed to read the in-baskets individually and begin writing responses to each item the first half of the allotted time period. After having decided individually what action would be taken on the in-baskets, the second half of the time period was directed toward arriving at a consensus decision of the most appropriate action for each in-basket item. The time period for the team game was approximately thirty-five (35) minutes.

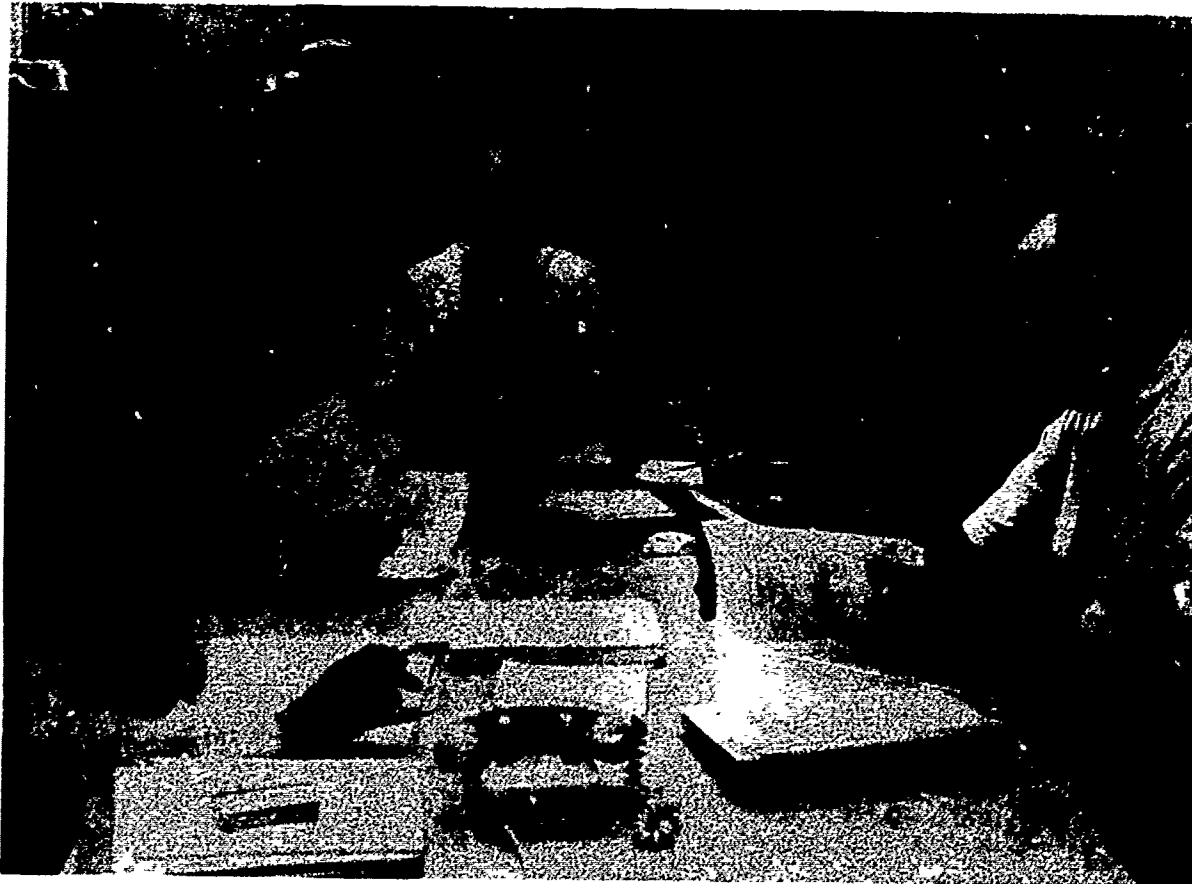


Participants Viewing Video-taped Playbacks of Previous Workshop Participants

The three teams returned and a representative from each team presented his team's decisions. The discussion and evaluation of the team responses permitted an open expression of alternative solutions to the problems presented by the in-baskets, familiarizing the participants

with the types of in-baskets they would encounter in the workshop, and provided an experience in group decision-making. No scoring of the team decision was done as is common with simulation games.

Pictured below is one of the three teams:

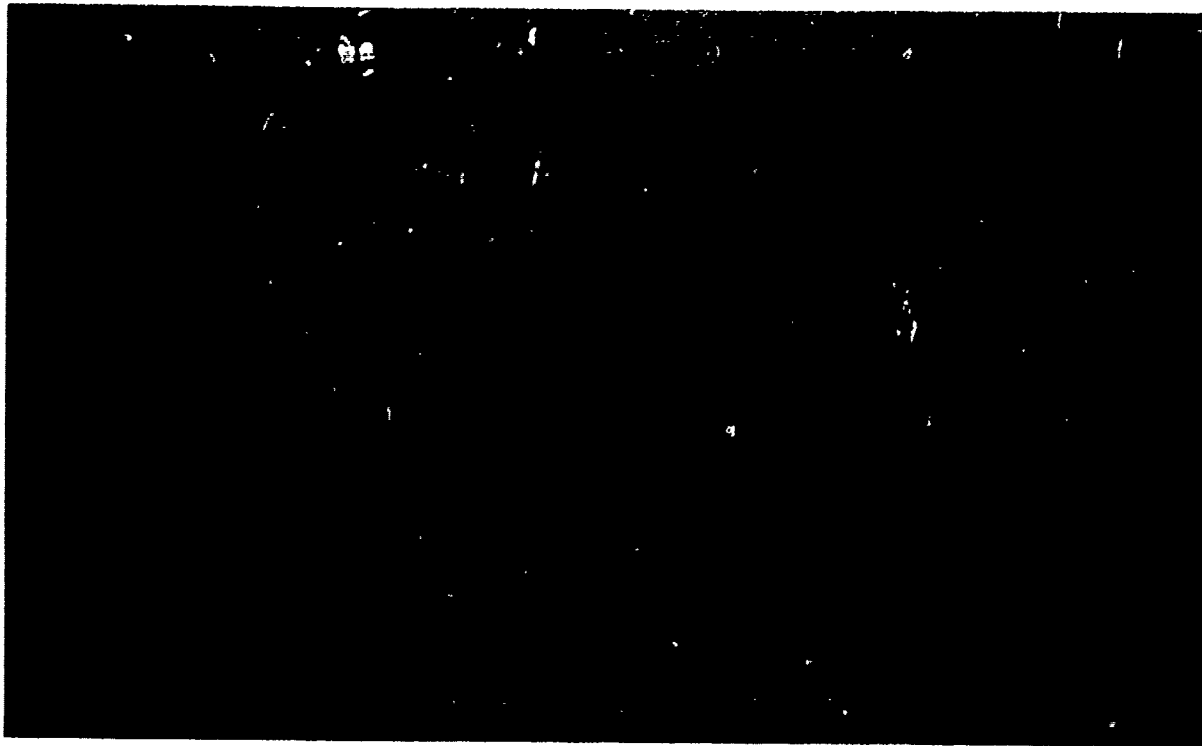


Team Games: (left to right) Mr. F. Lindberg, Dr. L. Potkonski, Dr. H. Peppel, Miss K. Voetsch, Mr. R. Bleakley

Prior to the participants engaging in individual handling of in-basket and "live items," a brief lecture was given entitled, "Linking Theory and Practice Through Simulation." One of the capabilities of simulation is that management concepts and theoretical models can be discussed and applied to reality-based problems in a manner that

cannot be accomplished through the lecture method or that time in the actual work setting does not permit. In the workshop, Griffith's Steps in Decision-Making, pictured below to the right of the Getzels and Guba model, were applied to several of the in-basket items.

(See Appendix G.) Griffith's Steps in Decision-Making were not only discussed by the participants, but further applied, from Step 1, "Recognizing, Defining and Limiting a Problem," to Step 6, "Putting the Preferred Solution into Effect."



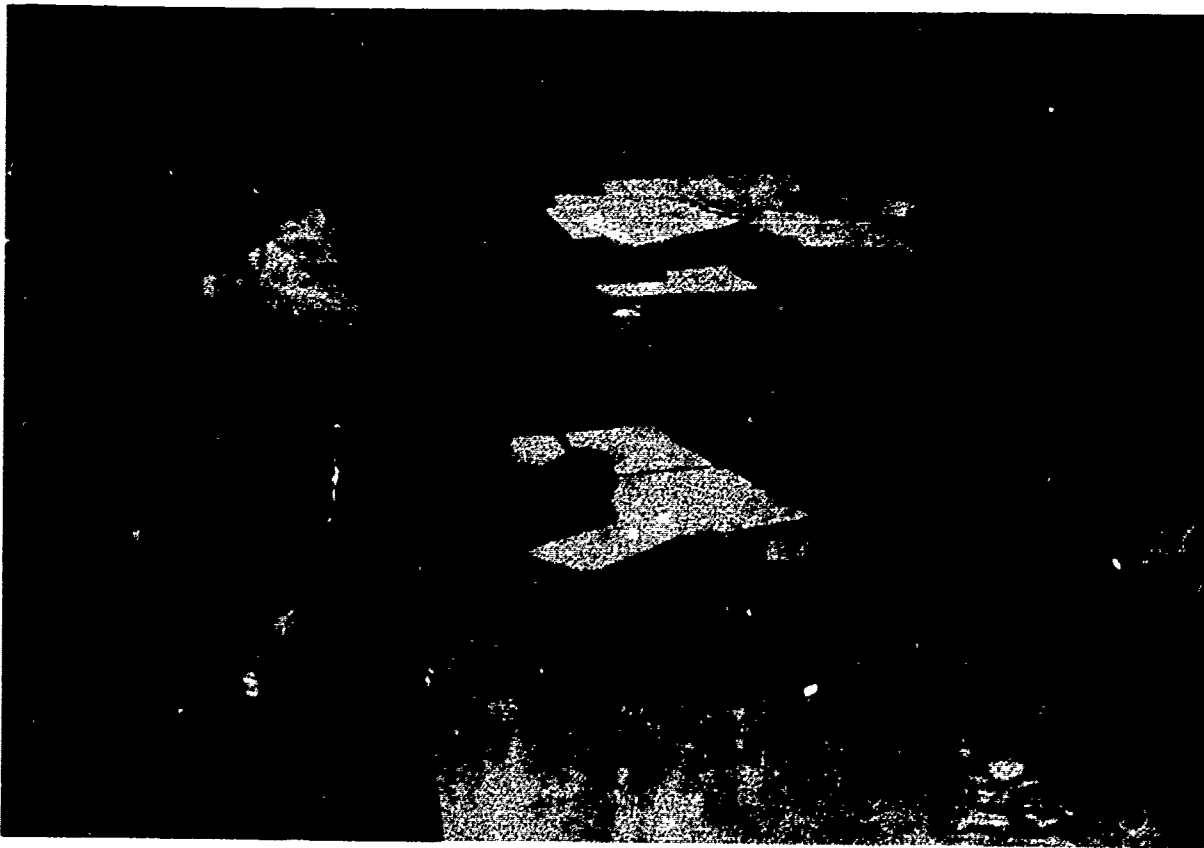
"Linking Theory and Practice through Simulation"

Simulation allows for experimentation that would involve high risk or high cost to an actual system. For example, in the Shannon State School and Hospital Simulation, the staff organization can be changed from its present system to a unit system and can be experimented

with at no risk and little cost, with many of the advantages and disadvantages of such a change to be realized.

In the actual institution setting major organizational changes are frequently accomplished at both high risk and cost and only speculation as to the problems that will arise from such a change can be made.

Having been made aware of how theory and practice could be linked through simulation, the participants became involved in handling in-baskets individually. The participants were given a packet of in-baskets and assigned individual work stations as indicated in the following picture.



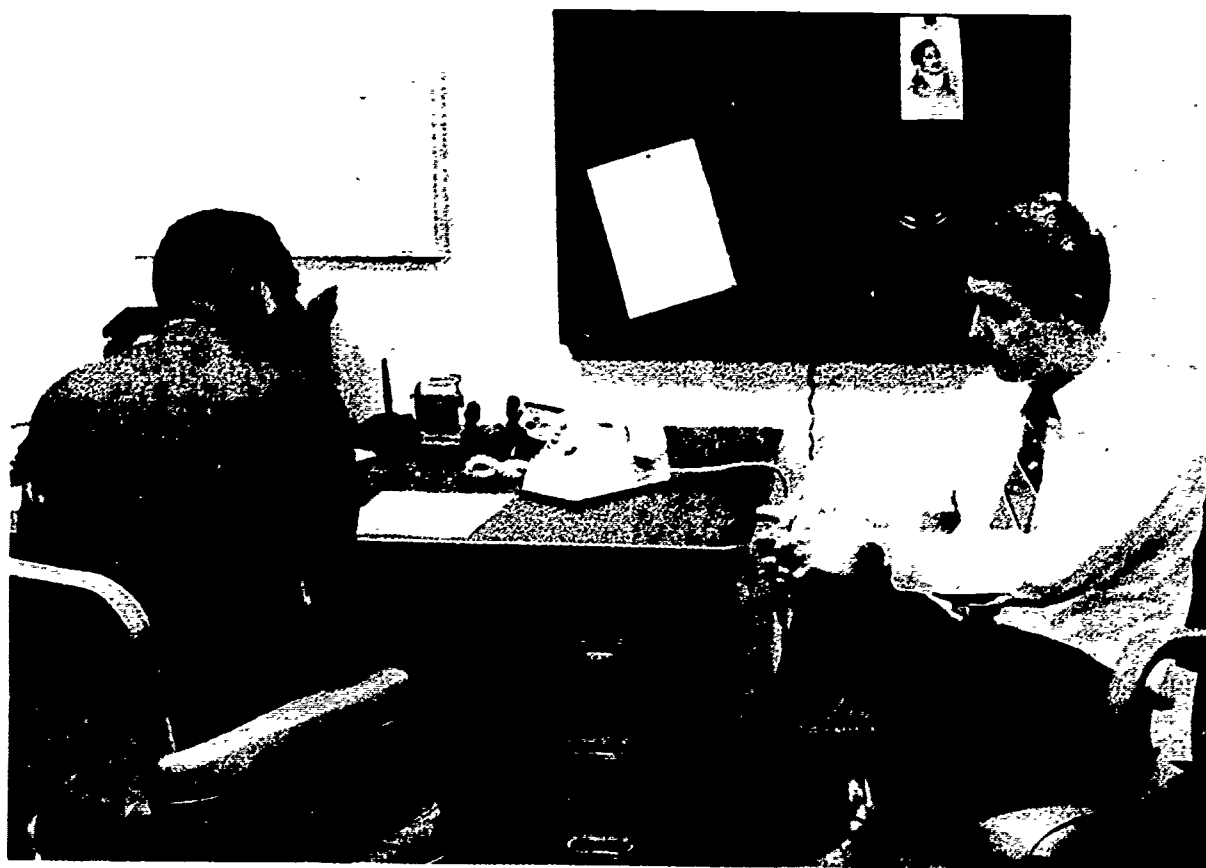
Dr. Benjamin Clark: Applying Decision-Making and Problem-Solving Skills to In-Basket Items

After applying their problem-solving and decision-making skills to the in-basket items for thirty to forty minutes, a group discussion and evaluation of the responses followed. In this open discussion period, each participant had the opportunity to discuss and compare his responses with the others. It was this segment of the workshop where alternative solutions to similar problems are learned.

One technique used at this time in the workshop was the In-Basket Response Form cited as Appendix F. The In-Basket Response Form, along with Griffith's Steps in Decision-Making, was used to demonstrate a systematic means for identifying and resolving problems.

As pictured on the following page, video-taped live encounter items were undertaken simultaneously with the individual in-baskets. Participants were asked to go to the television suite, and, acting as Alan Kennedy, Superintendent of Shannon State School and Hospital, engage in live encounters with "stooges" who played roles as parents, employees, and community representatives. In the picture at the top of the next page, Alan Kennedy (Dr. Charles Palm) is confronted with one of Shannon State School and Hospital's accountants who is soliciting Mr. Kennedy's support in helping to obtain a military deferment. In the lower picture, Mr. Kennedy (Dr. Benjamin Clark) is confronted by a college student working part-time at Shannon and who is deeply disturbed by the way one of the attendants has "conditioned a resident to hit his head against the wall at the sound of the attendant's hand-clap."

Utilizing the learning principle of reinforcement following immediate feedback, the participants were shown video-taped playbacks



Dr. Charles Palm (left) and Mr. Hugh Woods are participating in a live encounter item.

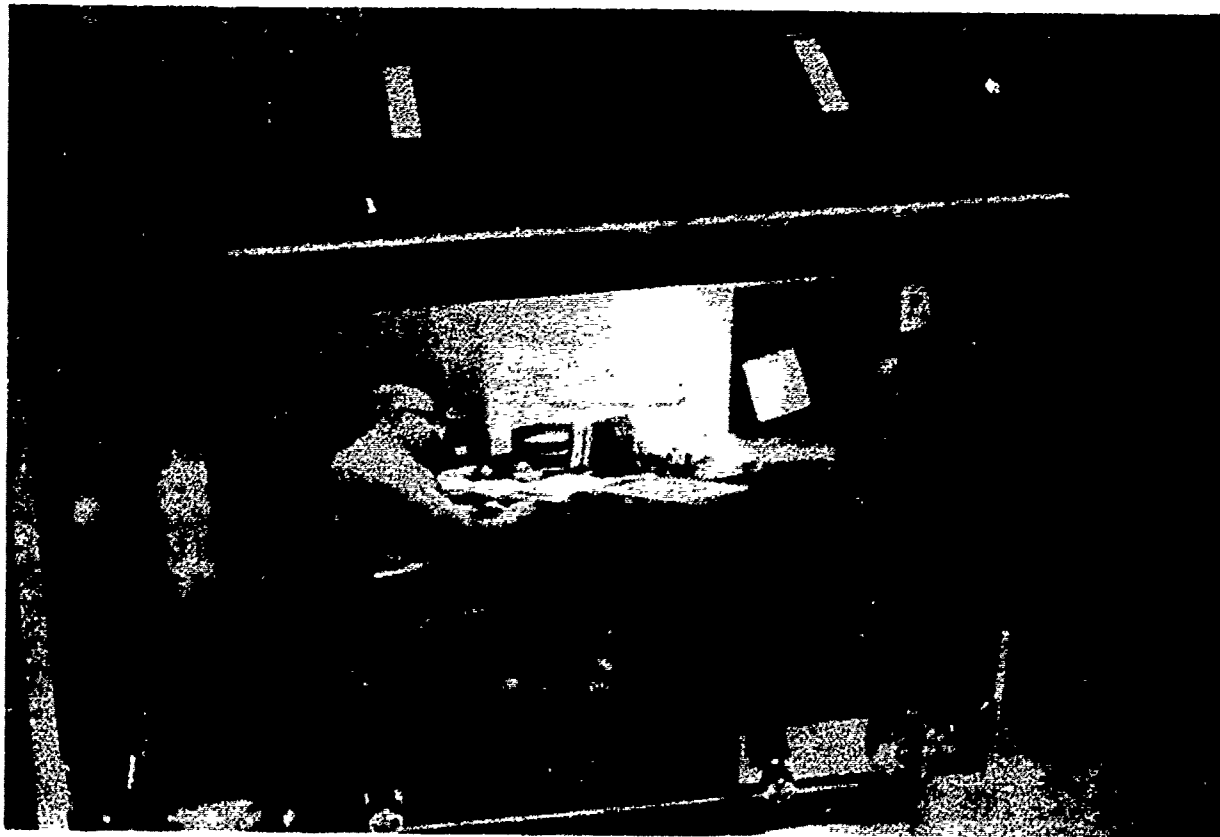


Dr. Benjamin Clark (left) and Mr. Tim Kelly being video-taped in a live encounter item.

within thirty minutes after the live item encounters were taped. This activity "holds up the mirror" for the participant, and allows him as well as the group to scrutinize his decision-making behavior. Like the in-basket items, the video-taped "live items" were discussed and evaluated for the purpose of arriving at the best possible solutions to the problems posed.

During all the video-taped "live items," the participants received telephone interruptions. These telephone interruptions included messages informing Alan Kennedy that a resident had escaped, an employee was drunk and disorderly, and that a group of residents away at the Institution camping grounds were violently ill with food poisoning.

The following picture illustrates the video-tape playback of Mr. Kennedy (Dr. Wesley White) encountering with Shannon State School and Hospital's education director.



Dr. Wesley White (left) and Mr. Robert Sterrett: Video-Tape Playbacks

Realizing that institution management problems do not occur in isolation, in-basket and live encounter items were combined to form a "major item." A "major item" is a series of in-baskets and live encounter items concerned with a single problem over a period of days or weeks in both "simulated" or real time. In this workshop, the "major item" involved the rights of Shannon State School and Hospital residents on day-work placement to use the public community swimming pool. In this "major item" Alan Kennedy received letters and telephone calls, encountered with his education and recreation directors and the director of the community swimming pool and his lawyer and eventually was invited to appear at a city council meeting to express his opinion regarding the swimming pool issue.

The majority of workshop time was spent actively participating in the resolution of problems posed through in-basket and live encounter items and the subsequent discussion and evaluation by the staff and participants. Judging by responses taken from the second Participant Questionnaire, this was the most meaningful workshop activity. For the project staff, the most meaningful activities came at the end of the workshop when the participants responded to Participant Questionnaire #2 and spent the final hour commenting on the entire workshop and the Shannon State School and Hospital Simulation Training Materials. It was from suggestions and recommendations made by the participants at this time that the project staff would make the necessary revisions.

Participant Questionnaire #2 is cited as Appendix E. Below is a list of conclusions drawn by the project staff from summarized participant comments taken from the Questionnaire.

1. The workshop met or exceeded each participant's pre-workshop expectations.
2. Each participant was willing to participate in additional simulation workshops.
3. The content of the simulator (documents, in-basket items, live items, etc.) is reality-based and relevant to management training.
4. Each participant believed the workshop was professionally valuable; i.e., it gave each an opportunity to view the actions and attitudes of others and several reported that they wish they had had this type of experience earlier in their career.
5. Two superintendents want to use the materials at their institutions as soon as arrangements can be formulated.
6. Each participant was in agreement that the roles in the simulator should be eventually expanded beyond the superintendent to include the clinical director, business manager, personnel officer, and other management positions within state schools and hospitals.
7. Additional pre-workshop information should be sent to the participants; i.e., a brief institution description, including organization charts and staff rosters.

The following data is summarized from comments reported on the forty-eight (48) Participant Questionnaires #2. (See Appendix E.) This data is intended to provide an indication of the success of the workshops, the effectiveness of the "Shannon Materials," and the

participants' reactions to simulation training.

Question No. 1. Was the Simulation Workshop professionally valuable to you? Yes ____ No ____ Explain.

All of the participants responded "yes." The following explanations are direct quotes:

"It brought home the idea of making decisions more rapidly -- and the loss of time involved in 'hedging.'"

"Supervisory and administrative personnel rarely have the opportunity to evaluate consequences of their decisions. The Workshop provided this opportunity without threat."

"Makes me more attentive to the variables and possibilities within our own institution and departments."

"Provided enlightenment with regard to how current superintendents handle the situations."

"Defined uses of simulation training; forced critique of own and other's modus operandi."

"Provides a much more realistic and practical method of training."

"Exposure to a variety of ways by which to deal with problems."

"Gave me additional insight into simulation training and feel it will be of value to our own staff development program."

"A stimulating approach to sharpening one's administrative skills."

"Opened up excellent avenues of training possibilities for our system."

"Criticism is that it was a superficial, unchallenging simulator; but social processes and interactions were valuable."

"A new way of learning. The video tape is an outstanding tool."

"A new approach to me in examining and evaluating the process of decision-making in institutional administration."

"I wish I had some of this earlier in my experiences as an administrator."

"Had opportunity to see myself make decisions -- presumably as those I supervise would see me."

"It apointed out many procedures and administrative problems that are not usually apparent in my present position."

"A type of training I shall try to use at my institution."

"It gave me some measure of confidence in that some of my administrative techniques are valid."

Question No. 2. Do you believe simulation is an effective means of training?

Forty-seven participants responded "yes," and one responded "yes" and "no" with a qua'ifying statement. The following explanations were given:

"It enables one to see the same problem from different angles and different solutions."

"Exposes simple habits and assumptions, challenges them by reality aspects of simulator; helps participant build new constructs, new needs for guides, organization and teamwork."

"Participants can and must play active roles and not be completely passive."

"Can reporduce and give practice to situations without injury or harm to self or others."

"Learning by doing is always an effective teaching device -- the simulator provides an opportunity to actualize learning by doing in adequate depth for enough a time period so that real experiences are recalled."

"Perhaps more limited than some feel. Excellent in structured situations with specific target behaviors desired."

"It involves the participants far beyond the more conventional types of training."

"Provides tremendous opportunity for self-evaluation."

"Can give valuable pre-training prior to facing actual administrative problems. Low risk solutions."

"In conjunction with work experience, it can clarify and develop roles, goals, and tasks."

"One becomes more involved. I think more of the senses are directed toward the lessons to be learned than are in the lecture, for example. Should be better potential for carry-over because of consequent reinforcement probability."

"Deals with realistic problems and a means of solving them."

"Opportunity to give, not just receive."

"It should be expanded from its present set-up to include other areas of management."

"Very effective for training and selection of administrative people."

Question No. 3. What specific Workshop incident or event would you consider as significant?

Most of the participants indicated that the video-taping and playbacks of live encounter items were the most significant events. This was followed by responding to in-baskets and the subsequent group discussion and evaluation of the responses. Many participants cited the "sharing of ideas" and the witnessing of various ways of solving problems as most significant.

Question No. 4. What suggestions would you make for the improvement of the Workshop?

- | | |
|---------------|--------------|
| A. Content | E. Documents |
| B. Materials | F. Speakers |
| C. Procedures | G. Other |
| D. Schedule | |

Examination of the responses regarding the above workshop components found that many of the participants assigned ratings such as "Excellent," "Good," and "O.K." The following comments extracted from the questionnaires represent those from which the project staff was able to make appropriate change in the workshop format and the training materials:

A. Content -

"Two or three 10-minute lectures on community and sub-system; on 'organization' and department-program coordination."

"Change of traditional superintendent role to community service emphasis."

"Include more high priority problems."

"More complex in-basket material during the latter part of the course."

"Would suggest some attention to relationships to base service units, regional directors, MH-MR administrators, judges and court orders, child welfare, public assistance, etc. (although this might become too broad with the latter groups.)"

"Good -- broaden to not be only one position -- play and learn how overall staff can function."

"More inter-service problems -- conflict between departments."

"More items requiring deeper investigation and fewer relatively non-important in-basket items."

B. Materials -

"Background materials excellent, taped presentations done too fast."

"Well developed, but a little pre-preparation time should be allowed."

"In-basket items specially inappropriate to superintendent input. Documents confusing, contradictory, repetitious and unnecessarily voluminous."

"It was mentioned there will be 12-13 documents, which should be most adequate."

"Very good."

"Make them consistent, plan all errors in relation to training goals."

"Possibly additional video-tape equipment to facilitate data collection."

"Excellent as is."

"Focus specifically on institutional change."

C. Procedures -

"Cut down on discussing the method as an effective tool and why."

"Encourage more role play and try to be less directive."

"Should allow more time for in-basket response."

"More small group reactions to TV problems."

"Tape sessions during lunch hours and coffee breaks -- or store tapes in advance."

"Impressed with procedures."

"Need to crystallize out management principles."

"Perhaps could be continued more into the evenings in less formal setting -- relating to specific incidents we have experienced."

"Procedures were excellent, in terms of video playback, discussion, etc."

"Have group evaluate the performance of each participant at end of workshop "

"Descriptive material should be given out in advance so it would be more familiar."

"More discussion for full elaboration of simulation topics."

"Good 'climate' established. Suggest attempt to get more 'closure' by integrating 'lectures' with simulation so general principles clearly emerge."

D. Schedules -

"More time."

"Good. Would have been to our advantage to have been 'off grounds' and uninterrupted by our own local problems."

"Schedule well kept, hard to improve other than number of days involved -- should be a week to 10 days."

"A little rapid for four days -- would be much better spread over a year."

"Well set up and provided for flexibility as necessary."

"Schedule was good -- afforded opportunity for flexibility."

"The limited time for the workshop worked against us -- I'd like longer spans for the entire workshop and the items within it."

"Well organized. 'Tempo' relaxing. Too heavy reliance on didactic model on first day."

"Very prompt."

E. Documents -

"Advanced access to the documents -- a week or so prior to program."

"Manuals could possibly be re-evaluated."

"The morning mail should build up to items listed above: administrative activities in the area of budgeting, state level program decisions, dealings with state legislature in the area of budget support, relations with state department."

"Organizational chart should be a separate document (enclose in plastic laminate?) for ready reference."

"Possible central office document, and phone calls."

"If available, mail out prior to meeting for reading."

F. Speakers -

"Well done explanations; definitions."

"Well prepared and objective."

"Introductory phase too long and drawn out."

"Very emphatic and to the point at all sessions; very short, not drawn out; kept one's attention."

"Stimulating and knowledgeable."

G. Other -

"Some equipment problems: too small screen for slides, feedback squeaks, etc.; disturbing."

"The simulator or some comparable workshop device should be required as training for interim supervisory staff at regular intervals -- new supervisors should experience the simulator as a matter of routine."

"Believe it would be more fruitful to organize the discussion sessions according to some lesson plan which focuses on nature of the encounter."

"I must make a positive comment about the participants from the Univ. They were intelligent, well versed in the problems, discerning and knowledgeable."

"For simulated staff conference, have Kennedy address actual staff in roles assumed from Shannon State School and Hospital."

"Not to be held at place of employment."

"Role players other than participants should be 'strangers.'"

"The simulator is generally realistic. Suggest not remove secretary and dictating equipment as important variables. Suggest not restrict degrees of freedom by limiting victim to two-year tenure."

Question No. 5. Would you be interested in participating in additional Workshops of this type?

Forty-two participants responded "yes." Three responded "yes" if new in-basket and live encounter items were used and if new management models were taught. Three participants responded "no."

Of the three "no" respondents, all were institution staff commonly referred to as "supervisory" or "middle management" and no reasons were cited for their negative responses.

Question No. 6. Did this simulation training Workshop meet with your pre-Workshop expectations?

Examination of the information submitted in response to this question showed that thirty-four participants responded "yes;" four responded "no;" five responded "yes" and "no" and five did not respond.

The following explanation statements were taken from participants who responded "yes" to Question No. 6:

"Was pleasantly surprised -- most workshops extremely dull -- had no desire to withdraw from this one."

"Reinforced my understanding of how theory and practice can be related."

"I would like to see material of this sort made available to the S.S. & H. for staff development purposes. Should be tailored for Clin. Dir., Bus. Mgr., Personnel Officer, Social Ser. Dir., Dir. of Nursing Ser., etc., etc."

"I didn't know what to expect and was pleasantly surprised. I can see excellent application to others in supervisory positions in our institution."

"Had some idea, but no definite yes or no expectation. I did enjoy it and it will help in work situation as I look back on it."

"Surpassed expectations in content. Instructors gave excellent presentatioss."

"I anticipated a very interesting experience and it was interesting and knowledgeable."

Of the four participants responding "no," these explanations were given:

"Objectives of short term workshops need clarifying. Obviously this one is different from one that is concerned only with training. Perhaps some prior analysis (test or interview) of participants with subsequent analysis of responses."

"I know what was to happen yet I would like to have seen these 'cats' work on some real good problems in change of this pathological place."

"Content should be more focused on specific area; should be more discussion for full elaboration of simulation topics; workshop not long enough."

"I had erroneously assumed the simulator was further developed and had established validity in terms of training and/or evaluation. At the current stage of development, this simulator is neither a training nor an evaluative tool, although I feel it has the potential for becoming both."

The following statements were taken from those responding both "yes" and "no."

"Better than I had anticipated."

"The institutional situation was expected. My difficulty was divorcing myself from actual position to superintendent giving a same unbiased view to all disciplines."

"In some ways -- I was very apprehensive and worried about being 'cut down' for making the wrong decision, but to my delight found out such was not the case. I feel I have gained confidence through the experience."

"I did not have any pre-Workshop expectations in terms of Alan Kennedy. Has given me some insight as to how the TV playback can be used in Polk's simulated community and as to how it might be used if Polk presents Workshop to Regional VI Day Care Centers."

"I didn't know what to expect -- am very enthused over this method of learning and training -- it's alive."

The following comments were taken from those who did not answer "yes" or "no" to Question No. 6, but did write an explanation:

"Quickly lost my paranoid feelings and was able to enter into situation or activities with some confidence; that I might be using correct judgment within own setting."

"Have never participated in simulation previously; therefore it was very interesting session."

"I didn't have any expectations!"

The workshop concluded with the participants, shown in the next picture, responding to summary questions posed by the project staff. These questions and brief majority responses were:

1. In your opinion, did the simulation materials, in-basket items, live items, documents, and slide-tape presentations satisfy the requirement or dimension of reality?

Response: Yes.

2. Did the simulation materials have apparent face validity?

Response: Yes.

3. What are your suggestions for expanding the materials?

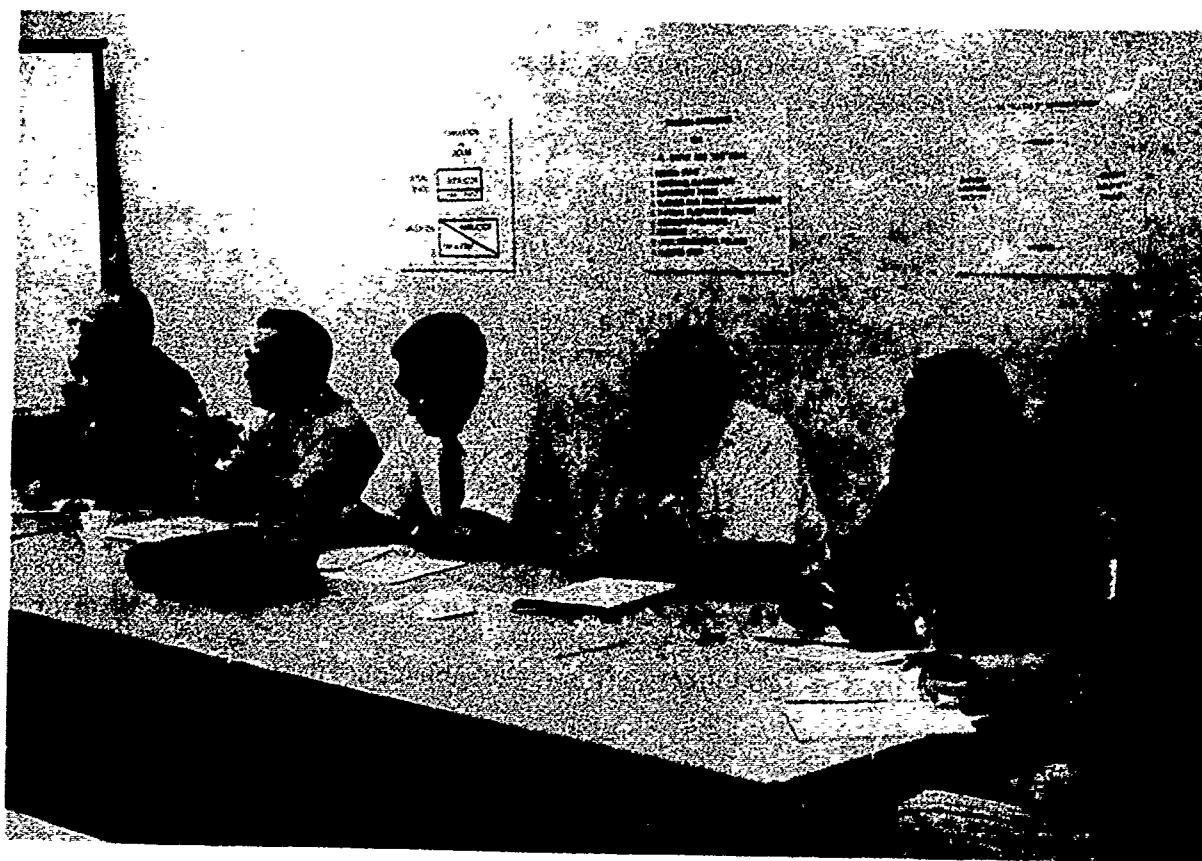
Response: Materials should be expanded to include other key management positions.

4. How can these materials be used for pre- and in-service training in institutions such as yours?

Response: Train institution staff member(s) as instructors; train Central Office education staff member(s) and have "Shannon Materials" incorporated in present pre- and in-service training programs; hire designers of Shannon Materials as consultants to conduct simulation training programs at various state institutions.

5. Regarding the slide-tape presentation of the city of Shannon, (1) what questions were not answered, and (2) what needs to be done to improve the reality dimension?

Response: (1) None of significant consequence.
(2) Change simulated name of agency sponsoring presentation from Chamber of Commerce to public library.



(Left to right) Dr. J. Connolly, Dr. B. Clark, Dr. R. Babskie, Dr. W. White, Dr. C. Palm, and Dr. L. Potkonski, responding and offering suggestions and recommendations for changes in the "Shannon Materials."

6. Regarding the slide-tape presentation of Shannon State School and Hospital, (1) what questions were not answered, and (2) what needs to be done to improve the reality dimension?

Response: (1) None.
(2) Show less buildings and more program activities.

7. Do you believe you had an opportunity to fully respond during the discussion and evaluation of in-basket and "live" items?

Response: Yes.

8. In the discussion of "Linking Theory and Practice through Simulation," do you believe the management models should be (1) completely taught in relation to specific in-basket and "live" items, or (2) only briefly discussed?

9. Should there be more or less time spent in video-taping sessions?

Response: More.

10. What suggestions do you have for the use of the video-tape playbacks? (Self) (Others)

Response: (1) That they be re-run days or weeks later to be studied by the participant(s).
(2) That they be compared to other tapes of the same encounter.

Responses herein reported represent the majority. There was complete agreement on most responses.

Workshops #1, #2 and #3 were similar in format and the summary questions posed by the project staff marked the conclusion of each workshop.

Workshop #3

Workshop #3 was held at Polk State School and Hospital in Polk, Pennsylvania. Host for this workshop was Dr. James McClelland, Superintendent. Participants were composed entirely of Polk's management personnel. (See Appendix C.) It was decided that the "Shannon Materials" should be tried with an institution staff to (1) sensitize them to problems encountered by superintendents, (2) elicit their recommendations for revisions in the training materials, (3) discern the "Shannon Materials" adequacy and adaptability for training management personnel other than superintendents, and (4) determine how these materials could be incorporated into an institution's in-service training program for management personnel.

Analysis of the participant questionnaires indicated that the workshop was both professionally and personally a valuable experience.

The in-basket and live encounter items made the participants aware of many problems faced by the superintendent that are not apparent in their subordinate positions. Many participants benefited from playing the role of superintendent because it enhanced their perception of the problem-solving and decision-making that had to be done by the superintendent. Other participants indicated that the simulation training experience taught them new and more efficient ways of making decisions that would assist in solving their own departmental problems.

Summary

Three pilot workshops were held to, (1) discern the authenticity of the Shannon State School and Hospital Simulation Training Materials designed for pre- and in-service training of management personnel employed in residential institutions for the mentally retarded, and (2) revise and refine these materials upon the suggestions and recommendations of the workshop participants. Participants in these workshops included nationally recognized authorities in the management of residential institutions for the mentally retarded, experts on the instructional use of simulation, representatives from the Pennsylvania Office of Mental Retardation, regional directors, superintendents of Pennsylvania State Schools and Hospitals, and key management staff of Polk State School and Hospital.

Workshop objectives were established to give (1) the participants an update on the development of the "Shannon Materials," (2) an opportunity to use, analyze and evaluate the materials in a workshop setting, (3) opportunities to revise and refine the materials, and

(4) suggestions and recommendations for the use of these materials in pre- and in-service training programs. All of the objectives for the workshops were met.

The format for the workshops included: (1) materials development, (2) planning, (3) lectures, (4) team simulations, (5) individual simulations, (6) video-taped simulations, and (7) discussion and evaluation sessions. Feedback taken from participant comments and workshop questionnaires indicated that the workshops were professionally valuable and that the participants would be willing to attend additional simulation training workshops.

The composite on the following page is indicative of the various workshop activities.



CHAPTER V

PROJECT SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

Summary

From September 1, 1969 through August 31, 1970, the University of Pittsburgh, with cooperation and funding through the Pennsylvania Department of Public Welfare, Office of Mental Retardation, developed a reality-based simulator and training materials. These materials, known as the Shannon State School and Hospital Simulation Training Materials, were intended for pre-service and in-service training programs for persons in management positions in the Commonwealth's state schools and hospitals for the mentally retarded.*

Subsequent to the development of the "Shannon Materials" a project entitled, "Pilot Workshops Utilizing the Simulator and Training Materials Developed for In-Service Programs for Leadership Personnel Employed in Residential Institutions for the Mentally Retarded," was funded from September 1, 1970 to August 31, 1971. The purpose of this project was to field test the newly developed materials with persons sophisticated in the management of institutions for the mentally retarded and instructional simulation to insure the authenticity of the materials and make appropriate revisions where necessary.

* The Final Report of the activities undertaken in this project was submitted to the Pennsylvania Office of Mental Retardation. Copies of the report, entitled, The Development of an In-Service Program for Leadership Personnel in Residential Schools for the Mentally Retarded, is made available by request to the Commissioner.

This project had the following objectives:

1. To conduct three pilot workshops using as participants (1) superintendents of Pennsylvania institutions for the mentally retarded, (2) simulation experts, administrators of institutions for the retarded outside of Pennsylvania, and (3) staff personnel from one of the Pennsylvania State Institutions for the Mentally Retarded.
2. To discuss and analyze the results of each consecutive pilot workshop with the participants to discern the necessary revisions for the simulator and the training materials that would enhance their authenticity, reliability, validity and effectiveness.
3. To print and disseminate the simulation materials for implementation as a training device for leadership personnel in Pennsylvania State Institutions for the retarded as well as the leadership personnel of institutions throughout the United States.

In accomplishing Objective One, the project staff conducted three pilot workshops. Workshop participants, via open discussions, participant questionnaires, and document evaluation forms, made suggestions and recommendations for both revising and using the training materials. Subsequent to each workshop, the project staff analyzed the suggestions and recommendations and made appropriate revisions in the materials.

Completion of Objective Two involved numerous days of project staff time to discuss and analyze participant comments and make revisions in the training materials. Following each workshop, two to three weeks were devoted to rewriting and editing institution documents, in-basket and live encounter items, and the slide-tape presentations.

Objective Three was met when the entire simulation training package was submitted to the Commissioner of the Pennsylvania Office of Mental Retardation with the recommendation that the training materials be disseminated through professional channels for incorporation and implementation into in-service training programs.

Participant comments obtained from both open discussion and the questionnaires used in the three pilot workshops provide evidence that the Shannon State School and Hospital Simulation Training Materials are both well received and considered feasible for in-service training by management personnel and authorities in the care and treatment of the mentally retarded. The "Shannon Materials" have undergone field testing and revisions following the suggestions made by workshop participants. These materials have undergone final revision and printing and were submitted to the Commissioner of the Pennsylvania Office of Mental Retardation with several recommendations for their use.

Recommendations

Being cognizant of the suggestions and recommendations made by the workshop participants, the project staff recommends that:

1. Discussions with Pennsylvania Office of Mental Retardation officials responsible for pre- and in-service training programs for management personnel employed in state schools and hospitals for the mentally retarded begin as soon as possible to determine the most efficient and effective means of implementing the "Shannon Materials" into existing training programs.
2. The Shannon State School and Hospital Simulation Training Materials be expanded beyond the role of the Superintendent to include the positions of: Business Manager, Clinical Director, Director of Patient Affairs, Education Director, Director of Personnel and Director of Social Services.
3. Studies be designed and conducted that will measure the effectiveness of the "Shannon Materials" following their use with institution management personnel.
4. The "Shannon Materials" be analyzed to explore their potential capability for use in the selection and placement of institution management personnel.
5. Because of their capability for training in problem-solving and decision-making and sensitizing trainees to problems encountered by institution superintendents, the Shannon Materials, in their present form, should be used with persons occupying positions other than the superintendency.
6. Provisions should be made to use the Shannon State School and Hospital Simulator as a vehicle for experimentation

with recent innovations; i.e., new ideas should be tried and evaluated in the simulator under "low risk" conditions before implementation in the actual system.

7. The "Shannon Materials" be used on the college and university level to ensure particularized training towards the management of institutions for the retarded.
8. Provisions be made for the reproduction, purchase and dissemination of the "Shannon Materials" through professional channels to agencies involved with the care and treatment of the mentally retarded.
9. The "Shannon Materials" be modified to include the development of a "simulated" community-based facility of 150-bed capacity or less which will reflect the current trend in institutional care for the mentally retarded.
10. Responsible officials in the Office of Mental Retardation should assign persons to be trained by the project staff in the use of the "Shannon Materials."

Attempts to facilitate recommendations Nos. 2 and 3 have been put into motion. The project staff has submitted proposals to the Pennsylvania Department of Public Welfare that if funded, would fulfill these two recommendations. The development of a proposal is being considered by the project staff and D.P.W. officials regarding recommendation No. 9.

Conclusions

Simulation has been used as a training device by the military, business, industry, medicine, education and the behavioral sciences.

The project staff, as a result of the activities which have occurred with this project, "Pilot Workshop Utilizing the Simulator and Training Materials for Leadership Personnel Employed in Residential Institutions for the Mentally Retarded," believe that simulation can be used effectively for both pre-service and in-service training programs in Pennsylvania State Schools and Hospitals, colleges and universities, and other agencies involved with the care and treatment of the mentally retarded.

A reality-based simulator and training materials known as the Shannon State School and Hospital Simulation Training Materials has been completed. These materials, designed to engage management personnel in problem-solving and decision-making activities congruent with problems encountered in institutions for the mentally retarded, have been submitted to the Pennsylvania Office of Mental Retardation.

It was intended that the "Shannon Materials" provide a vehicle for training, experimentation and research that will produce innovations and meaningful changes in the management of existing institutions for the retarded. The Office of Mental Retardation, Commonwealth of Pennsylvania, by supporting this project, has demonstrated its willingness to effect productive change and improve the quality of services for the mentally retarded.

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APPENDIX A

SIMULATION WORKSHOP #1

March 23-26, 1971

PARTICIPANTS

Bensberg, Gerard	University of Alabama Medical Center Birmingham, Alabama 35233
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Wulkan, Paul D.

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APPENDIX C

SIMULATION WORKSHOP #3

June 23-25, 1971

POLK STATE SCHOOL AND HOSPITAL PERSONNEL

POLK, PENNSYLVANIA

PARTICIPANTS

Edith Sechler, M.D.
Assistant Superintendent

Mr. Thomas A. Jones,
Farm Manager

Dr. Frank Varva
Chief of Psychological Services

Mr. Terry Swasy
Assistant to the Farm Manager

Dr. Richard Hall
Research Psychologist

Mrs. Ann Petrovich
Director of Social Service

Mrs. Martha Dunkle
Directress of Nursing

Mrs. Maxine Scannel
Personnel Officer

Miss Mary Lou Bower
Director of Recreation

Mr. R. Rollin Bleakley
Assistant Business Manager

Mrs. Helen Galloway
Chief Dietitian

Mr. Adam Gazeik
Institutional Maintenance Superintendent

Mrs. Edytha Crawford
Director of Speech and Hearing

Mr. Harry Watkins
Director of Educational Activities

Mrs. Geraldine McKnight
Institutional School Principal

Mr. Russell Anderson
Director of Occupational Therapy

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APPENDIX D

Name _____ Date _____

PARTICIPANT QUESTIONNAIRE #1

INSTITUTIONAL SIMULATOR

UNIVERSITY OF PITTSBURGH

1. What position do you presently hold? _____

2. What other positions within institutions for the mentally retarded
have you held? _____

3. What position would you consider as your career objective? _____

4. Briefly list what would you consider to be the critical problems
in institutional management of the retarded today? _____

5. Give a specific example of a difficult and recurring problem you
face in your position. _____

PARTICIPANT QUESTIONNAIRE #1

-2-

6. Have you participated in simulation training before? Yes _____ No _____

If yes, when, where and for what purpose? _____

7. Briefly describe your expectations concerning this Simulation Training Workshop. _____

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APPENDIX E

Name _____ Date _____

PARTICIPANT QUESTIONNAIRE #2

INSTITUTIONAL SIMULATOR

UNIVERSITY OF PITTSBURGH

1. Was the Simulation Workshop professionally valuable to you?

Yes _____ No _____

Explain: _____

2. Do you believe simulation is an effective means of training?

Yes _____ No _____

Explain: _____

3. What specific Workshop Incident or event would you consider as significant?

4. What suggestions would you make for the improvement of the Workshop?

A. CONTENT: _____

B. MATERIALS: _____

C. PROCEDURES: _____

PARTICIPANT QUESTIONNAIRE #2

-2-

D. SCHEDULE: _____
_____E. DOCUMENTS: _____
_____F. SPEAKERS: _____
_____G. OTHER: _____

5. Would you be interested in participating in additional Workshops of this type?

6. Did this simulation training Workshop meet with your pre-Workshop expectations?

Yes _____ No _____

Explain: _____

APPENDIX F

IN-BASKET RESPONSE FORM

NAME _____ ITEM NO. _____

1.0 Action Indicated

1.1 Yes _____

1.2 *No _____

1.3 *Undecided _____

1.4 _____

*State reason(s) for these choices _____

2.0 Priority Action:

2.1 Immediate Action _____

2.2 Quick Action _____

2.3 Routine Action _____

2.4 Delayed Action _____

2.5 No Action _____

3.0 Action Vehicle:

3.1 Written _____

3.2 Instrumental _____

3.3 Face to Face _____

3.4 Indirect _____

3.5 None _____

4.0 Essence of Selected Action:

5.0 Rationale for Action:

APPENDIX G

GRIFFITH'S

STEPS IN DECISION-MAKING

1. Recognize, define, and limit the problem.
2. Analyze and evaluate the problem.
3. Establish criteria or standards by which solution will
be evaluated or judged as acceptable and adequate to the
need.
4. Collect data.
5. Formulate and select the preferred solution or solutions.
Test them in advance.
6. Put into effect the preferred solution.
 - a. Program the solution.
 - b. Control the activities in the program.
 - c. Evaluate the results and the process.

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APPENDIX H

AGENDA

SIMULATION TRAINING WORKSHOP #2
 PENNSYLVANIA STATE SCHOOLS AND HOSPITALS
 MAY 12, 13 and 14, 1971

Wednesday A.M. - 9:30 to 11:45

9:30	Introduction of Staff and Participants	Dr. Stevens
9:45	Statement of Problem	Dr. Stevens
10:00	Workshop Questionnaire #1	Mr. Handley
10:15	Simulation: Definition and Uses	Mr. Garove
10:35	Slide-Tape -- Community of Shannon	Mr. Handley
10:50	Break	
11:00	Institution Simulation Development Project - Background, Rationale, Training Materials Description	Mr. Garove
11:20	Slide-Tape -- Shannon State School and Hospital	Mr. Handley
11:45	Lunch	

Wednesday P.M. - 1:00 to 3:45

1:00	Discussion of In-Basket and "Live" Items and Gaming	Mr. Garove
1:15	Video-Tape Playbacks of Previous Participants - Discussion	Mr. Handley
1:45	Discussion of Team Games	Dr. Stevens
1:50	Team Games	Staff and Participants
2:20	Break	
2:30	Discussion and Evaluation of Team Responses	Staff and Participants
3:10	Summary and Assignment	Dr. Stevens
3:45	Adjourn	

APPENDIX H (CONT'D.)

-2-

Thursday A.M. - 9:30 to 11:45

9:30	Opening Remarks - Agenda - Participant Comments	Dr. Stevens
9:45	"Linking Theory and Practice through Simulation"	Mr. Garove
10:10	In-Baskets for Individual Games	Mr. Handley
10:40	Break	
10:50	Discussion and Evaluation of In-Basket Responses	Staff and Participants
11:30	T.V. Suite Orientation	Staff and Participants
11:45	Lunch	

Thursday P.M. - 1:00 to 3:45

1:00	Expanded Application of the Institution Simulator	Mr. Handley
1:20	Distribution of In-Baskets; Video-Taping of "Live" Encounters	Staff and Participants
2:00	Playback and Assignment of Live Encounters	Staff and Participants
2:30	Break	
2:40	In-Basket Response Form	Mr. Garove
2:45	Discussion and Evaluation of In-Basket Responses	Staff and Participants
3:30	Summary and Assignments	Dr. Stevens
3:45	Adjourn	

Friday A.M. - 9:30 to 11:45

9:30	Opening Remarks - Agenda - Participant Comments	Dr. Stevens
9:45	Video-Tape 1970 AAMD Convention, and Discussion	Mr. Garove
10:15	Gaming - Individual In-Baskets, Major Item, and Video-Taping	Staff and Participants

Friday A.M. - 9:30 to 11:45 (cont'd.)

10:45 Break

10:55 Discussion and Evaluation of Major Item; Video-Taped
Encounters and Individual In-Baskets

Staff and
Participants

11:30 Workshop Questionnaire #2

Mr. Handley

11:45 Participants' Comments

12:30 Summary

12:15 Adjourn